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# CATALOGED BONDO

## AMERICAN INSTITUTE OF CROP ECOLOGY Silver Spring, Maryland

SUGARBEET-CLIMATE RELATIONSHIPS

AND THE USE OF PHENOLOGY IN ASCERTAINING THE TEMPERATURE REQUIREMENTS OF SUGARBE WITH SPECIAL REFERENCE TO THE INTERMOUNTAIN REGION

OF THE UNITED STATES

Based on Data of Utah, Idaho, and Washington

CONTRACT NO. DA 18-064-AMC-127(A)

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TABLE A

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STATION Lind Odessa Pulican Debrecen Sandpoint Krakow Wescow Prerev Lucy Chernovisy	COUNTRY (State of U.S.) Washington U.S.S.R. Washington Hungary Idaho Poland Idaho Czechoslovakia U.S.S.R. C.S.S.R. Romania	REGRON OF COUNTRY UKE Eastern Southern Central UKraine Ukraine Nerthern	PROVINCE Odessa Oblast Krakow  Meravia Lvov Oblast Chernovtsy Oblast	1ATITUDE 47°00'N 46°29'N 46°24'N 46°24'N 47°36'N 48°17'N 50°04'N 49°27'N 49°27'N 49°27'N 49°27'N 49°27'N	Mean 'F   A   A   A   A   A   A   A   A   A	ANNUAL Mean M Day N F 56 52 54 54 55 55 55 55 55 55 55 55 55 55 55	Mean Night 44 46 45 43 43 43 43 43	ω ι Σι	E R A Mean Day Mean Day 76 75 75 75 75 75 75 75 75 75 75 75 75 75	T U R E  TT U R E  Wean  Night  63  63  63  60  60  60  60  60  60  60	COOL Wean 'F 27 25 27 28 27 27 28 27 27 28 27 27 28 28 26 25 27 27 27 28	COOLEST MONTH  The an Day Nig  F "F "F "F "F  7 31 24  5 27 23  7 30 24  8 31 24  6 32 27  7 30 24  6 27 22  7 30 24  8 31 24  8 31 24  6 22  7 30 24  8 31 24  8 31 24  8 31 24  8 31 24  8 31 24  8 31 24  8 31 24  8 31 24  8 31 24  8 31 24	NTH Mean Night 24 23 25 24 27 27 27 27 27 27 22	ANNUAL RELATIVE HUMIDITY Dail Mean Mill Mill Mill Mill Mill Mill Mill Mil	JAL IIVE Daily Min. % 64 64 64 64 66 67 68	Annual Amount Inches 16 14 23 29 25 25 25 25 24	PRECIPITATION    Maximum
Logan Van	Ľcah Turkey	Eastern		41 44 'N 38 28 'N	48 48 48	53	43	74 70	81 77	66 63	23 26	27 30	19	56 55	45 n.a.	17	Fall-Winter-Sprg. Winter-Spring
Nephi Osh Ura-Tyube	reah v.s.s.r. v.s.s.r.	Central Asia Central Asia	Kirgiz S.S.R. Tadzhik S.S.R.	39°42°N 40°33°N 39°54°N	52 52 52	59 , n.a. n	44 n.a. n.a.	76 76 76	85 n.a.	67 n.a. n.a.	27 27 27	33 n.a.	21 n.a. n.a.	52 61 n.a.	38 47 47	14 13 13	Fall-Winter-Sprg. Spring Syring
Panguitch Iskander-Kul	Utah U.S.S.R.	Central Asia	Tadzhík S.S.R.	37°52'N 39°06'N	44	52 n.a. n	34	64	74 n.a.	54 n.a.	22 21	30 n.a.	14 n.a.	52 n.a.	38	σ 80	Summer Spring

TABLE B

CLOBAL CLIMATIC ANALOGUES FOR THE SPRING-CROP SEASON IN THE INTERMOUNTAIN RECION OF THE UNITED STATES

Lind Sevastopol Farmington Erivan	COUNTRY (State of 11.5.) Washington U.S.S.R. Utah U.S.S.R.	RECION OF COUNTRY Ukraine Caucasus	PROVINCE Crimea Oblast Armenian S.S.R.	1.00°10 44°37°10 44°37°10 10°10 10°10	SE % % % % % % % % % % % % % % % % % % %	SEVEN-MONTH  SEASON  Mean Me  Day Ni  F  67  67  67  50  69  50  69  69  60  60  60  60  60  60  60  6	NTH N Nean Night F 52 57 54 58	T E M MONT  "F 72 72 76 76 76	M	A T U R T T T T Mean Mean Night  ° F 63 68 67 70	ω <u>Σ</u>	ESJ v SE	EASON Mean Night °F 36 38 35	RELA HUMA FOR S % % 68 68 51	RELATIVE HUMIDITY FOR SEASON Daily ean Min. % % % 54 38 68 61 46 32 51 38	Seven Mo. Mo. Amount Inches 5 6 7	<u> </u>
Usak Konya	Turkey Turkey	West Central South Central		38°40'N 37°51'N	, 5 5 5 2 5 5 5	69	2, 25, 25	72	79	599	70 70 70	7 4 7 7 7 7 7 7	37 35	59 49	n.a. n.a.	~ 8 9	Fall-WinSprg. Fall-Winter Fall-WinSprg.
Nephi Ankara	Utah Turkey	Central		39°42'N 39°57'N	62	70	53	76 73	85	99	40	47	34 36	42 50	26 35	7	Fall-Win. Sprg. Fall-Win. Sprg.

1. Northern Hemisphere: March through September (Southern Hemisphere - no analogues).

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TABIE C

YEAR-ROUND GLOBAL THERMAL ANALOGUES OF THE INTERMOUNTAIN REGION OF THE UNITED STATES

								TEMP	MPERATUR	TURE			_		ANNUAL RELATIVE
STATION	COUNTRY	REGION	PROVINCE	LATITUDE		ANNUAL		WAI	WARMEST MONTH	DNTH	Š	COOLEST MONTH	ONTH		HUMIDITY
	(State of U.S.)	OF		_		Mean	Mean		Mean	Mean		Mean	Mean		
		COUNTRY			Mean	Day	Night	Mean	Day	Night	Mean	Day	Night	Mean	
					[ <b>L</b>	[24	e E	ī	स	e E	э <u>г</u> ч	<u>е</u>	H <sub>o</sub>	84	
Pullman	Vashington			N, 55, 95	48	53	4,4	89	7.5	62	28	31	25	62	
Zvolen	Czechoslovakia	Eastern	Slovakia	48°35'N	67	52	94	69	72	65	29	31	27	73	
Graz	Austria	Southern	Steiermark	N, 50° 7.5	95	52	4.5	89	72	63	28	31	25	72	
Sarajevo	Yegoslavia	Central	Bosnia	43°52'N	20	55	9 7	89	75	62	30	34	27	89	
Prosec	Washinoton			46°15'N	51	58	45	71	80	62	30	33	56	62	
Thirdshop I	Hingary	Northern		N, 1	52	99	84	72	77	99	30	33	28	69	
Buchareat	Romania	Southern		44°25'N	52	57	47	14	80	67	27	30	23	71	
Nir	Yugoslavia	Southeastern	Serbia	43°20'N	53	28	87	72	79	99	32	36	59	11	
Sandboint	Idaho			N. 41.87	97	51	40	99	74	57	25	28	22	35	
Wroclaw	Poland	Southwestern		N, 20°12	87	52	777	99	2	61	30	33	27	76	_
Kiev	U.S.S.R.	Ukraine	Kiev Oblast	50°27'N	97	67	75	89	73	63	22	24	19	74	
Hoscott	Idaho			N, 55°,95	48	53	43	67	7.5	- 65	28	31	54	62	
Innsbruck	Austria	Western	Tirol	47°16'N	87	53	7,7	99	72	61	27	31	23	70	
1,0640	Ucah			41°44'N	87	54	43	74	81	99	25	27	19	56	
Dzhambul	U.S.S.B.	Central Asia	Kazakh S.S.R.	45°54'N	67	P.8.	n.a.	74	n.a.	n.a.	23	n.a.	n.a.	65	_
Vonsan	North Korea	Southern		39°11'N	51	55	47	74	78	71	56	30	21	65	
Nephí	Utah			39°42'N	52	59	77	9/	85	- 29	27	33	21	52	
Sangiston	U.S.S.R.	Central Asia	Tadzhik S.S.R.	39°23'N	52	n.a.	n.a.	75	n.a.	n.a.	28	n.a.	n.a.	n.a.	

TABLE D

GLOBAL THERMAL ANALOGUES FOR THE SPRING-CROP SEASON<sup>1</sup> IN THE INTERMOUNTAIN REGION OF THE UNITED STATES

								TEMP	MPERATU	TURE				RE	RELATIVE
					SEV	SEVEN-MONTH	E	MA	WARMEST MONTH	ONTH	ಕ	COOLEST MONTH	HUNDH	DH	HUMIDITY
MOLTATO	COMPTRY	REGION	PROVINCE	LATITUDE		SEASON		ō	OF SEASON	2		OF SEASON	SON	Š	FOR SEASON
MOTIVIE	( S II JO STANS)	20				Mean	Mean		Mean	Mean		Mean	Mean		Daily
	(יהיה זה היהיה)	COUNTRY			Mean	Day	Night	riean	n Day	Night	Mean	n Day	Night	Mean	Min.
					٥ (د	¥.	Į,	Di o	<b>[14</b> c	Ĉ.	Et o	ě	je,	%	%
1	2000			N. 55.95	57	63	51	99	7.5	62	39	43	36	52	36
Stuttgart	Kest Germany	Southern	Wurttemberg	N, 17,87	57	62	52	99		61	45	45	39	89	85 
	1446			N, 65° E7	50	09	41	63	72	32	27	32	21	97	32
Kare	Turkey	Northeastern		N. 9E. 07	20	57	43	99		99	23	29	17	99	ت ش
	4			41°44'N	59	99	53	74	81	99	37	42	32	97	32
Chiu-Chuan	China	Northern	Kansu	N, 97, 68	09	99	54	74	81	89	36	45	30	38	n.a.
	4			N, 65°07	62	69	24	9/		67	41	47	35	97	32
Tot Vien	90,00	Horthern	Shansi	37°54'N	63	20	57	78	83	72	88	46	31	29	я. В.
Thilisi	U.S.S.R.	West Caucasus	Georgian S.S.R.	41°43'N	63	89	28	74		69	43	47	36	59	<b>4</b>
_								1			1				

<sup>1.</sup> Morthern Hemisphere: March through September (Southern Hemisphere -- no analogues).

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TABLE 1

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3

Toppenish, Wash. Latitude 46°19'N

				I-NMOS	SOWN-TO-HARVEST	YIELDS	DS.
		Date	Date	No. of	Summation of	Beets:	Sucrose
	70.0	Soun	Harmested	Davs	Dav-Degrees	per Acre	Content
Variety	lear	11800			(°F.)	(tons)	(percent)
US 22/3 (028)	1951	Apr. 16	Oct. 9	176	4,731	25.88	16.33
us 22/3 (7-22)	1949	Apr. 8	Oct.10-11	186	4,930	35.04	16.36
US 22/3 (824)	1949	Apr. 8	Oct.10-11	186	4,930	31.55	17.12
us 22/3 (828)	1949	Apr. 8	Oct.10-11	186	4,930	33.37	16.76
us 22/3 (828)	1951	Apr. 16	0ct. 9	176	4,731	26.18	16.53
us 22/3 (829)	1949	Apr. 8	Oct.10-11	186	4,930	35.54	16.51
us 22/3 (830)	1949	Apr. 8	Oct.10-11	186	4,930	34.96	16.71
Mean	(%) uoi			183 5 2.7	4,873 102 2.1	31.79 4.21 13.2	16.62 .26 1.6

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. 1/ Computed above 40°F. base.

TABLE 2

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3

Jerome, Idaho Latitude 42°44'N

				SOWN	SOWN-TO-HARVEST	YIELDS	SS
•		Date	Date	No. of	Summation of	Beets:	Sucrose
Variety	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
					(°F.)	(tons)	(percent)
US 22/3 (or 32)	1946	May 9	Oct. 14-16	159	3,880	18.41	16.27
US 22/3 (or 43)	1946	May 9	Oct. 14-16	159	3,880	19.64	16.37
US 22/3 (or 51)	1946	May 9	Oct. 14-16	159	3,880	19.89	16.42
US 22/3 (or 52)	1946	May 9	Oct. 14-16	159	3,880	19.78	16.76
US 22/3 (or 53)	1946	May 9	Oct. 14-16	159	3,880	19.66	16.70
MeanStandard Deviation	ion (%)			159 0 0	3,880	19.48 .53 2.7	16.50 .23 1.4

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

[]/ Computed above 40°F. base.

TABLE 3

PHENOLOGY, DAY-DEGREE SUPMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 (Commercial Check)

Latitude 41°58'N Lewiston, Utah

			T-NMOS	SOWN-TO-HARVESTED		YIELDS	/
Cron	Date	Date **	No. of	Summation of	Beets:	Sucrose	Gross-'Sugar
Year *	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
				(°F.)	(tons)	(percent)	(tons)
1051	Anr. 16	Oct. 20-21	188	3,537	21.76	15.59	3,392
1954	Apr 20	000	171	3,619	26.06	15.41	4.016
1056	Apr 10	0ct. 11	184	3,780	26.59	17.54	4.665
1957	Apr. 16	0ct. 11	178	3,572	25.62	15.94	4.084
Mode		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	180	3,627	25.01	16.12	4.039
Standard D	rean Standard Dewiation	† • • • • • • • • • • • • • • • • • • •	7	96	2.3	68.	.420
Coefficien	Coefficient of Variation (%)	(%	3.9	2.6	8.1	5.5	10.4

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research

 $\frac{1}{2}$  Computed above 40°F. base.  $\frac{2}{2}$  Gross sugar - Estimated tot

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Some years were not included in this series due to lack of either phenological records or temperature

\*\* Day-degree computations were made on the basis of averages of dates indicated.

TABLE 4

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 (Commercial Check)

Twin Falls, Idaho Latitude 42°32'N

			SOWN-TO	SOWN-TO-HARVES TED		YIELDS	70
Crop	Date	Date **	No. of	Summation of	Beets:	Sucrose	Gross 2/Sugar
Year *	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
				(°F.)	(tons)	(percent)	(tons)
1951	Apr. 5	Oct. 13 -15	192	3,754	23.23	14.95	3.473
1953	Apr. 21	Oct. 14	177		24.28	18.07	4.387
1953	Apr. 21	Oct. 14	177		24.84	16.43	4.081
1954	Apr. 14	Oct. 12	181	4,040	29.87	17.83	5.326
1956	Apr. 7	Oct. 20	196		30.40	15.48	4.706
1957	Apr. 25	Oct. 16	174		29.81	15.60	4.650
Mean	3 4 8 8 8 9 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	183	3,977	27.07	16.39	4.437
Standard De	Standard Deviation		6	169	3.71	1.32	.573
Coefficient	Coefficient of Variation	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4.9	4.2	13.7		12.9
•							

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

Computed above 40°F. base.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage 121

Data for 1952 and 1955 not available. sucrose in the beets.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 5

The second secon

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 (Commercial Check) PHENOLOGY, DAY-DEGREE

Nampa, Idaho Latitude 43°37'N

			COLINA-TC	COMM.TO.HARVESTED		YIELDS	2/
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose	Gross Sugar
Year *	Sown	Harvested	Days	(°F.)	(tons)	(percent)	(tons)
6901	Ann 23	0ct. 1	161	3,802	24.34	14.76	3.592
1955	Apr. 23	0.00	214	4,320	28.71	17.13	4.918
1954	Mar. 29	0000	177	4,178	22.22	15.10	3,355
1956	Apr. 13 Apr. 12	Oct. 12	183	4,208	28.75	14.97	4.304
¦   ;		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	184	4,127	26.00	15.49	4.042
Mean Standard Do Coefficient	Mean	(%)	10.3	204	3.41 13.1	1.03	.713

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets). Computed above 40°F. base.

<sup>\*</sup> Data for year 1955 not available.

TABLE 6

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUCAR BEETS - Variety US 22/3

Idaho Falls, Idaho Latitude 43°29'N

				SOWN-	SOWN-TO-HARVEST	YIE	YIELDS
		Date	Date *	No. of	No. of Summation of	Beets:	Sucrose
Variety	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
					(°F.)	(tons)	(percent)
US 22/3 (028)	1951	Apr. 14	Sept. 2-5-8	144	2,771	15.22	18.15
us 22/3 (828)	1951	Apr. 14	Sept. 2-5-8	144	2,771	16.35	17.92
Mean				144	2,771	15.78	18.04

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 7

PHENOLOGY, DAY-DEGREE SUPMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 3 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

					L-NMOS	SOWN-TO-HARVESTED	YIELDS	DS
Station and			Date	Date *	No. of	Summation of	Beets:	Sucrose
Variety	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(percent)
Toppenish, Wash.	N,61,94							
_		1951	Apr. 16	Oct. 9	176	4,731	25.88	16.33
22/3		1949	Apr. 8	Oct. 10-11	186	4,930	35.04	16.36
22/3 (		1949	Apr. 8	Oct. 10-11	186	4,930	31.55	17.12
22/3		1949	Apr. 8	Oct. 10-11	186	4,930	33.37	16.76
22/3		1951	Apr. 16	Oct. 9	176	4,731	26.18	•
22/3		1949	Apr. 8	Oct. 10-11	186	4,930	35.54	16.51
22/3		1949	Apr. 8	Oct. 10-11	186	4,930	34.96	16.71
Idaho Ralle Idaho	N, 62, E7							
US 22/3 (028)	i i	1951	Apr. 14	Sept. 2-5-8	144	2,771	15.22	18.15
22/3		1951	Apr. 14	Sept. 2-5-8	144	2,771	16.35	17.92
Tomos Table	M177007							
IIS 22/3 (or 32)	¥ + 7+	1946	May 9	Oct. 14-16	159	3,880	18.41	16.27
22/3 (or		1946			159	3,880	19.64	16.37
22/3 (or		1946	May 9	Oct. 14-16	159	3,880	19.89	16.42
22/3 · (or		1946	May 9		159	3,880	19.78	16.76
22/3		1946	May 9		159	3,880	19.66	16.70
Mean		1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	169	4,218	25.10	16.78
Standard Deviation -		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			18	821	8.37	.51
Coefficient of Variation (%)	tion (%)			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11.0	19.5	33.3	3.0

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

-

L Computed above 40°F. base.
 Day-degree computations were

Day-degree computations were made on the basis of averages of dates indicated.

PHENOLOGY, DAY-DEGREE SUMMATIONS AND YIELDS OF SUGAR BEETS - Variety US 22/3 (Commercial Check) 5 UNITED STATES INTERMOUNTAIN STATIONS

latitude)	
to	
according to	
arranged	
Stations	
_	

					SOWN-TO	SOWN-TO-HARVESTED		VIELDS	, C.,
State and	Latitude	Year *	Date	Date	No. of	Summation of	Beets:	Sucrose	Gross <sup>4</sup> /Sugar
Station			Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
						(°F.)	(tons)	(percent)	(tons)
Idaho									
Nampa	43°37'N	1953	Apr. 23	0ct. 1	161	3,802	24.34		3.592
1=	=	1954			214	4,320	28.71	•	4.918
=	=	1956		0ct. 9	177	4,178	22.22		3,355
=	=	1957	Apr. 12	Oct. 12	183	4,208	28.75	14.97	4.304
Minidoka	42°40'N	1954			178	3,940	22.59	•	3.899
Burley	42°32'N	1956		Oct. 12	181	4,233	27.66	•	4.570
) =	=	1957		_	188	4,513	29.63	•	4.676
Twin Falls	=	1951	Apr. 5		192	3,754	23.23	•	3.473
11 11	=	1953		Oct. 14	177	3,886	24.28	•	4.387
	=	1953	_	Oct. 14	177	3,886	24.84	•	4.081
11	=	1954			181	4,040	29.87	•	5.326
24 24	=	1956	Apr. 7		196	4,215	30.40		4.706
***	=	1957	Apr. 25	Oct. 16	174	4,081	29.81	15.60	4.650
Utah									
Lewiston	41°58'N	1951	Apr. 16	Oct. 20-21	188	3,537	21.76	15.59	3,392
	=	1954			171	3,619	26.06	15.41	4.016
=	=	1956	Apr. 10	Oct. 11	184	3,780	26.59	17.54	4.665
=	=	1957			178	3,572	25.62	15.94	4.084
Mean			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	# # # # # # # # # # # # # # # # # # #	182	3,974	26.26	16.14	4.241
Standard Deviation	uo		400000000000000000000000000000000000000		10	294	3.15	1.15	.595
Coefficient of Variation (%)	<i> ariation (%)</i>	1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		5.5	7.4	12.0	7.1	14.0

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Some years were not included in this series due to lack of either phenological records or temperature data.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

TABLE 9

The second second

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 (or 96) PHENOLOGY, DAY-DEGREE

Twin Falls, Idaho Latitude 42°32'N

			SOWN	SOWN-TO-HARVESTED		YIELDS	2/
100	Nato	Date *	No. of	Summation of	Beets:	Sucrose	Gross - Sugar
crop Vost	Soun	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
1691				(°F.)	(tons)	(percent)	(tons)
	17_10	19	185	3,626	22.90	14.33	3.286
1950	Apr. 1/-10	0c+ 13, 15	192	3,754	20.27	14.89	3.026
1951	Apr. J	00+ 23	1961	3,773	27.40	15.87	4.349
1951	Apr. 10	7	, ב ה	חיפיני	30.10	15.98	4.810
1952 1953	Apr. 23 Apr. 15	0ct. 15	183	3,922	33.70	16.00	5.392
Mean	Mean		189	3,769 99	26.87 5.30	15.41	4.1/2 1.019
Standard Coefficien	Standard Deviation		3.2	2.6	19.7	5.2	24.4

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage Computed above 40°F. base.

sucrose in the beets).
n.a. - not available.

\* Day-degree computations were made on the basis of averages of dates indicated.

TABLE 10

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 (or 96) PHENOLOGY, DAY-DEGREE

Shelley, Idaho Latitude 43°22'N

			I-NMOS	SOWN-TO-HARVESTED	:	YIELDS	7 6
Crop	Date *	Date ★	No. of	Summation of	Beets:	Sucrose	Gross-/Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
				(°F.)	(tons)	(percent)	(tons)
1952	n.a.	n.a.	n.a.	n.a.	20.30	17.93	3.613
1953	Apr. 2	Oct. 23-26	205	3,534	21.80	17.67	3.846
1953	n.a.	n.a.	n,a.	n.a.	22.40	18,25	4.094
1954	Apr. 4-15	Oct. 15-23	198	3,591	19.70	17.94	3.532
Mean Standard D Coefficien	Mean		202 <u>3</u> / <u>3</u> /	$\frac{3,152}{\frac{3}{2}}$	21.05 1.32 6.3	17.95 .19 1.1	3.771 .249 6.6

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°R. base.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

3/ Not computed because of small number of cases.

n.a. - not available.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 11

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/, (or 96)

Granger, Utah Latitude 40°42'N

			I-NMOS	SOWN-TO-HARVESTED		YIELDS	
Crop	Date	Date **	No. of	Summation of	Beets:	Sucrose	Gross <sup>2</sup> /Sugar
icar	TIMO C	nar vested		(°F.)	(tons)	(percent)	(tons)
1950	Mar. 30	Oct. 9	193	4,398	29.40	15.12	4.439
1950	Mar. 30	0ct. 9-10	194	4,416	28.00	15.24	4,262
1951	Apr. 3	Oct. 13-15	194	, 4,639	29.30	14.22	4.166
1953	<b>M</b> ar. 25	Oct. 25-26	215	4,898	32.80	16.50	5.412
Mean	Wean		199	4,588	29.88	15.27	4.570
Standard De	Standard Devistion		10	227	1.83	.78	.528
Coefficient	Coefficient of Variation (%)	3 8 8 8 8 8 8 8 9 9 H	5.0	6.4	6.1	5.1	11.6

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Data for year 1952 not available.

Day-degree computations were made on the basis of averages of dates indicated.

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 (or 96) 9 UNITED STATES INTERMOUNTAIN STATIONS

(Stations arranged according to latitude)

					SOWN-TO	SOWN-TO-HARVESTED		YIELDS	10
State and	Latitude	Year *	Date **	Date **	No. of	Summation of	Beets:	Sucrose	Gross Sugar
Station			Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
Washington						(°F.)	(tons)	(percent)	(tons)
Toppenish	N,61,97	1951	Apr. 16	Oct. 9	176	4,731	26.93	15.94	4.293
	=	1953	Mar. 5	n.a.	n.a.	n.a.	27.00	16.30	n.a.
Idaho									
Idaho Falls	N,63°54	1951	Apr. 14	Sept.2,5,8	144	2,771	15.43	7.	n.a.
Shelley	43°22'N	1952	n.a.	n.a.	n.a.	n.2.	20.30	17.93	•
11	=	1953	Apr. 2	Oct.23-26	205	3,534	21.80	17.67	3.846
F	=	1953	n.a.	n.a.	n.a.	n.a.	22.40	18.25	.09
E	=	1954	Apr.4-15	Oct.15-23	198	3,591	19.70	17.94	3.532
Jerome	45°44'N	1950	May 25	Oct. 8	n.a.	n.a.	12. 16	á	n.a.
Twin Falls	42°32'N	1950	Apr.17-18	Oct. 19	185	3,626	22.90	14.33	3.286
••	=	1951	Apr. 5	Oct.13-15	192	3,754	26.27	•	•
•	2	1951	Apr. 10	Oct. 23	196	3,773	27,40	•	4.349
	=	1952	Apr. 25	n.a.	•	n.a.	0.1	Š	•
•	•	1953	Apr. 15	Oct. 15	183	3,992	33.70	16.00	5.392
Utah									
Garland	41°44'N	1953	Apr.15-16	Oct.22-22	189	4,131	21.10	18.36	3.874
=	=	1954	Apr.19-20	Oct.10-13	176	4,234	•	•	3.302
Taylorsville	N,95,05	1950	Mar. 22	Oct. 2	194	4,280	•	•	4.055
=	=	1952	Apr. 10	Oct. 27	200	5,252	43.20	13.87	5.992
=	=	1953	Mar. 24	Oct. 26	216	4,901	•	3	5,795
Granger	40°42'N	1950	Mar. 30	Oct. 9	193	4,398	•	•	4.439
=	=	1950	Mar. 30	Oct. 9-10	194	4,416	28.00	15.24	4.262
=	=	1951	Apr. 3	Oct.13-15	194	4,639	ų.	•	4.166
=	=	1953	Mar. 25	Oct.25-26	215	4,898	$\infty$	•	5.412
Gunnison	36°07'N	1954	Apr. 6	Oct.10-21	193	4,178	23.10	15.82	•
Mean					191	4,172	26.17	15.93	4.260
Standard Deviation	uo			1 1 1 1 1 1 1 1	13.3	586	7.52	1.59	.803
Coefficient of Variation (%)	ariation (%)		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	7.0	14.0	•	10.0	18.8

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture..

Computed above 40°F. base.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

n.a. - not available.

\* Some years were not included in this series due to lack of either phenological records or temperature data. \*\* Day-degree computations were made on the basis of averages of dates indicated. TABLE 13

1/PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 22/3 (622)

Latitude 40°42'N Granger, Utah

			COLINI	SOUN TO HABVESTED		VIELDS	, 6
	94.00	Date *	No. of	Summation of	Beets:	Sucrose	Gross <sup>2</sup> /Sugar
Crop	מייים	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
Year	DOWL			(°F.)	(tons)	(percent)	(tons)
			100	286.7	24.61	14.21	3.497
1948	Apr. 12	0ct. 25-30	200	766.7	21,17	15.10	3.195
1948		NOV. I-2	191	4 871	29.30	12.34	3.620
1949		Oct. 5	181	4,871	29, 10	13.24	3.860
1949		Oct. 5	197	4 416	29,30	14.41	4.222
1950	Mar. 30	Oct. 9-10	134	oi t s t			
			,	760 7	06 70	13.86	3,679
Mean	Mean	1 4 5 8 9 5 8 9 5 8 9	191	4,827	3.81	1.08	.363
Standard D Coefficien	Standard Deviation		5.5	4.3	14.3	7.8	6.6

Source: Based on data of the Sugar Beet Investigations Branch, Grops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets). Computed above 40°F. base. 

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 14

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 (622)

Twin Falls, Idaho Latitude 42°32'N

			COLDI	TO HA DITECTED		YIELDS	
Crop	Date	Date *	No. of	of Summation of	Beets:	Sucrose	Gross Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
				(°F.)	(tons)	(percent)	(tons)
1947	Mar. 28	Oct.25 - Nov.18	223	4,992	30.02	18.19	5,457
1948	Apr. 8	Oct. 11-12	187	3,943	25.35	14.58	3.702
1949	Apr. 15	Oct. 18-20	187	4,060	27.90	16.92	4.986
1949	Apr. 15	Oct. 18-20	187	4,060	28.00	16.37	4.579
1950	Apr. 17-18	Oct. 19	185	3,626	23.10	14.31	3.302
MeanStandard Devi	Mean	(;	194 15 7.7	4,136 429 10.4	26.87 2.66 9.9	16.07 1.63 10.1	4.405 .906 20.6

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

Gross sugar - Estimated total sugar content per acre (tens of beets per acre multiplied by percentage sucrose in the beets).  $\frac{1}{2}$  Computed above 40°F. base.  $\frac{2}{2}$  Gross sugar - Estimated tot

\* Day-degree computations were made on the basis of averages of dates indicated.

TABLE 15

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/3 (622) (Stations arranged according to latitude) 6 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

					I-NMOS	SOWN-TO-HARVESTED		YIELDS	16
State and	Latitude	Year	Date	Date *	No. of	Summation of	Beets:	Sucrose	Gross Sugar
Station			Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
						(°F.)	(tons)	(percent)	(tons)
Idaho									
Sugar City	43°53'N	1948	n.a.	n.a.	n.a.	n.a.	14.00	14.80	n.a.
Jerome	N, 77°, 27	1961	May 20	Oct. 13	146	3,744	15.85	n.a.	n.a.
=	=	1949	June 10	Oct. 25	137	3,352	2.50	n.a.	n.a.
Ξ	5	1950	May 25	Oct. 8	136	3,308	14.60	n.a.	n.a.
Twin Falls	42°32'N	1947	Mar. 28	Oct.25-Nov.1	18 223	4,992	30.02	18.19	5.457
£	=	1948	Apr. 8	Oct. 11-12	187	3,943	25.35	14.58	3.702
	=	1949	Apr. 15	Oct. 18-20	187	4,060	27.90	16.92	4.986
=	=	1949	Apr. 15	Oct. 18-20	187	4,060	28.00	16.37	4.579
<b>E</b>	=	1950	Apr. 17-18	Oct. 19	185	3,626	23.10	14.31	3.302
Utah									
Taylorsville	N,95,05	1950	Mar. 22	Oct. 2	194	4,280	34.10	11.33	3.859
Granger	40°42'N	1948	Apr. 12	Oct. 25-30	199	4,982	24.61	14.21	3.497
=	=	1948	Apr. 16	Nov. $1-2$	200	4,994	21.17	15.10	3.195
=	=	1949	Apr. 7	Oct. 5	181	4,871	29.30	12.34	3.620
<b>8</b> P	=	1949	Apr. 7	Oct. 5	181	4,871	29.10		3.860
20 E	=	1950	Mar. 30	Oct. 9-10	194	4,416	29.30	14.41	4.222
Riverton	40°30'N	1949	Apr. 12	Oct. 26-27	198	4,713	29.90	13.72	4.093
=	=	1949	Apr. 12	Oct. 26-27	198	4,713	24.90	14.13	3,516
	ı				100	0000	27 76	17, 65	100 6
real sessions		• • • • • • • • • • • • • • • • • • •		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	103	4,300	77.72	14.33	3.991
Standard Deviation	uo:	1		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	21	641	7.56	1.55	.652
Coefficient of Variation (%)		; ; ; ; ;		t	11.5	14.9	31.8	10.7	16.3

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1/ Computed above 40°F. base.

n.a. - not available.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

<sup>\*</sup> Day-degree computations were made on the basis of averages of dates indicated.

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/2 (222) 3 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

					OTNMOS	SOWN-TO-HARVESIED		SULTAL I	20	7 6
State and	Tatitude	Year *	Date **	Date **	No. of	Summation	Beets:	Sucrose	Gross <sup>2/</sup>	Net-2/
Station		  -  -	Sown	Harvested	Days	of Day-	per	Content	Sugar	Sugar
					•	Degrees	Acre		per Acre	per Acre
						(°F.)	(tons)	(tons) (percent)	(tons)	(tons)
Idaho									1	
Sugar City	43°53'N	1946	Apr. 24	Nov. 13	203	2,992	20.15	16.34	3.287	п.а.
Terome	N, 77, 27	1946	May 9	Oct.14-16	159	3,880	19.26	16.91	3.257	2.916
1	=	1947	May 20	Oct. 13	146	3,744	10.78	n.a.	n.a.	n.a.
=	=	1948	June 25	Nov. 4	129	2,897	7.60	n.a.	n.a.	n.a.
Tain Polle	N, CE, C7	1943	Anr. 11, 15, 18	Oct.11-12	180	3,980	29.72	16.11	4.788	4.147
11 11	3 1 = 1 1 = 1	1944	Apr. 27.30	0ct.16-17	173	3,698	23.49	16.08	3.777	3.332
=	=	1947	Mar. 28 (	Oct.25-Nov.18	18 223	4,992	29.43	18.36	5.401	n.a.
Von		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 8 8 8 8 8 8 8	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	. 173	3,740	19,63	16.76	4.102	3.465
Standard Deviation	ation	1 1 1 1 1 1			. 31	585	8.69	.88	. 995	<b>4</b> 1
Coefficient of Variation (%)	f Variation	(%)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1	. 17.9	15.6	44.2	5.3	24.3	/4/

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage

 $\frac{4}{4}$  Not computed because of small number of cases.

n.a. - Not available.

\* Some years were not included in this series due to lack of either phenological records or temperature data. \*\* Day-degree computations were made on the basis of averages of dates indicated.

TARIE 17

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22/4 (92) (Stations arranged according to latitude) 2 UNITED STATES INTERMOUNTAIN STATIONS

					- NAOS	SCWN-TO-HARVESTED	YIELDS	SC
State and	4	\$ 0 2	Date	Date Harvested	No. of Davs	Summation of Day-Degrees	Beets: per Acre	Sucrose Content
Station	ratitude	1001				(°F.)	(tons)	(percent)
Twin Falls, Idaho	42°32'N	1955	Apr. 22	Oct. 15	176	3,826	29.90	15.30
Taylorsville, Utah "	40°46'N	1954 1955	Apr. 8 Apr. 13	Oct. 6 Oct. 10	181 180	4,765 4,514	30.50 24.50	12.84
Wean					179	4,368	28.30	13.65

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. 1/ Computed above 40°F. base.

TABLE 18

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 22 (3d Re.32)

Latitude 42°44'N Jerome, Idaho

						*	24.54	
			SOWN-1	IN-TO-HARVESTED			Y LELLUS	
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose	Gross <sup>4</sup> 'Sugar	Net_Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre	per Acre
				(°F.)	(tons)	(percent)	(tons)	(tons)
1945	Anr. 19		189	4,060	21.70	16.78	3,641	3.282
1945	May 18	0ct. 26	161	3,740	14.54	16.15	2.348	2.001
1945	June 16		135	3,252	10.18	n.a.	n.a.	n.a.
1945	July 5		118	2,840	4.79	n.a.	n.a.	n.a.
Mean	Wean	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	151	3,473	12.80	16.46	2.994	2,642
Standard D	Standard Deviation		30	535	89*9	n.a.	n.a.	n.a.
Coefficien	Coefficient of Variation (%)	(%) 1	19.9	15.4	52.2	n.a.	n.a.	n.a.

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Source:

Service, U. S. Department of Agriculture.

 $\frac{1}{2}$  Computed above 40°F. base.  $\frac{1}{2}$  Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

3/Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage n.a. - not available. TABLE 19

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SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22 (3d Re.32) (Stations arranged according to latitude) 4 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

State and	Latitude	Year	Date	Dot	SOWN-TO	SOWN-TO-HARVESTED		YIELDS	ns.	
Station	ĺ	<b>!</b>	Sown	Harvested	No. of Days	Summation of Day-	Beets:	Sucrose	Gross2/	Net37
						Degrees	Acre	כסוורפוונ	Sugar ner Aczo	Sugar
Washington Toppenish	N,61.97	1945	Mar 20	9	•	(°F.)	<u>ٿ</u>	(percent)	(tons)	(tons)
Idaho		•	07	77.40.120	707	4,958	37.41	16.22	6.068	n.a.
Jerome "	42°44'N "	1945	Apr. 19	Oct. 25	189	4.060	21 70	7.	;	
<b>.</b> .	E 2	1945 1945 1945	May 18 June 16 July 5	Oct. 26 Oct. 29	161	3,740 3,252	14.54 10.18	10.78 16.15 n.a.	3.641 2.348	3.282 2.001
Utah			(13)	066.31	811	2,840	4.79	มื	n.a.	n.a. n.a.
Layton Granger	41°05'N 40°42'N	1945	Apr. 17	Oct. 8-9	175	4,201	25.19	15.96	000	
=	=	1945	Apr. 6-7		190 190	4,294 4,294	32.11 28.72	15.12 15.53	4,020 4,855 4,60	3,667 4.162 2.003
Mean	Mean									5.903
Standard Devi	Standard Deviation				170	3,955	21.83	15.96	4.232	3 7.03
coefficient o	coefficient of Variation				30 17.6	637 16.1	13.17	0.53	1,123	.763
							1	7.7	70.7	22.4

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Source:

Computed above 40°F. base. 1217

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage 3/

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested, factor). The purity factor (also called the purity coefficient) is the ratio between percentage n.a. - not available. \* Day-degree computations were made on the basis of averages of dates indicated.

TABLE 20

SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety Imp. US 22 (097) PHENOLOGY, DAY-DEGREE

Granger, Utah Latitude 40°42'N

			-OI-NMOS	-HARVESTED		YIELDS		, ,
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose	Gross2/ Sugar	Net 3/Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre	per Acre
				(°F.)	(tons)	(percent)	(tons)	(tons)
1940-Field 1	_	Nov. 1	202	5,504	27.74	17.67	4.902	4.268
" Field 2	Apr. 13	Oct. 29	199	5,456	28.28	16.93	4.788	4.186
" Field 3			214	5,504	31.04	13.96	4.333	3.481
" Field 4	Apr. 13	0ct. 17	187	5,264	30.36	16.41	4.982	4.348
" Field 5	_		215	5,504	33.92	15.56	5.278	4.448
1941	Mar. 28	Oct. 21	207	4,572	30,55	16.84	5.145	997.7
Wean			204	5,301	30.32	16.23	4.905	4.200
Standard Deviation	ation		10	320	1.92	12.25	.288	306
Coefficient of Variation (%)	of Variatio	(%) u	6.4	0.9	6.3	7.5	5.9	7.3

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1/ Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage 3/

TABLE 21

SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety Imp. US 22 (097) PHENOLOGY, DAY-DEGREE

Buhl, Idaho Latitude 42°36'N

			I-NMOS	TO-HARVESTED		YIELDS	)S 2/	3/
Crop Year	Date Sown	Date Harvested	No. of Days	Summation of Day-Degrees	Beets: per Acre	Sucrose Content	Gross Sugar	Net Sugar per Acre
				(°F.)	(tons)	(percent)	(tons)	(tons)
1940	Apr. 10	Oct. 14	187	4,493	29.39	16.19	4.758	4.413
=	June 6	Oct. 15	131	3,521	11.58	16.28	1,885	1.735
1941	Mar. 7	0ct. 6-7	214	3,867	17.82	16.53	2.946	2,631
:	Apr. 4	0ct. 6-7	186	3,771	18.79	17.63	3.313	2.826
=	May 1	Oct. 6-7	159	3,582	15.66	17.94	2.809	2.363
Kean	Kean		175	3,847	18.65	16.91	3.142	2.794
Standard	Standard Deviation		31	334	5.45	.872	968.	.828
Soefficie	Coefficient of Variation (%)	(2)	17.7	8.7	29.2	5.2	28.5	29.6

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity

sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety Imp. US 22 (097) (Stations arranged according to latitude) 4 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

						SOWN-TO	SOWN-TO-HARVESTED		VIELDS		
State and	Latitude		Year	Date	Date	No. of	Summation	Beets:	Sucrose	Gross Sugar	Net 3/Sugar
Station				Sown	Harvested	Days	of Day-	per	Content	Per Acre	per Acre
							Degrees	Acre			ı
14°51							(°F.)	(tons)	(percent)	(tons)	(tons)
Buh 1	42°36'N		1940	Apr. 10	0ct. 14	187	4,493	29,39	16.19	4.758	4.413
=	=		1940	June 6	Oct. 15	131	3,521		16.28	1,885	1,735
=	=		1941	Mar. 7	Oct.6-7	214	3,867	17.82	16.53	2.946	2.631
<b>=</b>	=		1941	Apr. 4	Oct.6-7	186	3,771	18.79	17.63	3.313	2.826
=	=		1941	May 1	Oct.6-7	159	3,582	15.66	17.94	2.809	2,363
Twin Falls	42°32'N		1940	Apr. 18-19			4,609		15.70	5.131	4.680
=	=		1941	Apr.21	Oct.13-14	4 176	3,824	28.04	18.05	5.061	4.185
Utah				•			<b>Y</b>				) 
Taylorsville 40°46'N	N.95.05		1941	Apr. 1	Oct. 13	195	4,488	24.88	14.10	3.508	3.142
Granger	40°42'N	1940	1940-Field 1	Apr. 13	Nov. 1	202	5,504	27.74	17.67	4.902	4.268
=	=	=	Field 2	Apr.13	Oct.29	199	5,456	28.28	16.93	4.788	4.186
= :	<b>E</b>	E	Field 3	Apr. 13	Nov. 13	214	5,504	31.04	13.96	4.333	3.481
<b>=</b> :	2	=	Field 4	Apr.13	Oct.17	187	5,264	30.36	16.41	4.982	4.348
<b>=</b> :	2	=	Field 5	Apr. 13	Nov. 14	215	5,504	33.92	15.56	5.278	4.448
=	•	1941		Mar.28	Oct.21	207	4,572	30.55	16.84	5.145	4.466
					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	190	4,568	25.77	16.41	4.203	3.655
Standard Deviation	:ton		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	21	793	7.18	1.20	1.173	1.030
Coefficient of Variation (2)	Variation	(2)				11.1	17.4	27.9	7.3	27.9	28.2

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage

TABLE 23

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS -Variety US 22 (2d Re.222)

Granger, Utah Latitude 40°42' N

			-NMOS	SOWN-TO-HARVESTED		YIELDS	7.6	3 /
Crop	Date*	Date*	No. of	Summation of	Reets:	Sucrose	Gross- Sugar	Net- Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre	per Acre
				(°F.)	(tons)	(percent)	(tons)	(tons)
1943-Field 1	Apr. 1	Nov. 5	217	5,233	21.08	16.54	3.487	3.151
" Field 2	Apr. 1	Nov. 5	217	5,233	21.66	16.88	3.656	3.327
" Field 3	Apr. 1	Nov. 5	217	5,233	29.38	15.08	4.431	3.897
" Field 4	Apr. 1	Nov. 5	217	5,233	28.43	14.94	4.247	3.625
1944	Apr. 5-8		203	4,469	20.94	14.82	3.103	2.600
1944	n.a.	n.a.	n.a.	n.a.	24.48	14.08	3.447	2.895
1945	Apr. 6-7	ŏ	190	4,294	28.71	15.73	4.516	3.961
Mean		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	210	4,949	24.95	15.44	3.841	3.351
Standard Devi	ation	Standard Deviation	12	474	4.17	1.02	. 598	.513
Coefficient of Variation (%)	f Variati	(%) uo	5.7	9.6	16.7	9.9	15.6	15.3

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage not available.

Day-degree computations were made on the basis of averages of dates indicated. n.a.

TABLE 24

SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 22 (2d Re.222) PHENOLOGY, DAY-DEGREE

Jerome, Idaho Latitude 42°44'N

				Campaga VIII		YTK	TDS	
			NMOS	SOWN-IO-HAKVES LED			2/2	3/6
	0400	Date	No. of	Summation of	Beets:	Sucrose	Gross—' Sugar	Net- Sugar
crop		Hampatad	Davs	Dav-Degrees	per Acre	Content	per Acre	per Acre
Iear		Hat Veo Lea		(°F.)	(tons)	(percent)	(tons)	(tons)
1	,	30	190	7. 060	21.24	16.76	3.560	3.178
1945	Apr. 19	Oct. 25	161	3,740	12,73	16.61	2.114	1.787
1945	Teny to	001.	135	3,252	8,62	n.a.	n.a.	n.a.
1945 1945	July 5	0ct. 31	118	2,840	3.40	n.a.	n.a.	n.a.
		6 1 1 1	151	3,473	11.50	16.68	2.837	2.482
Crandard	Granderd Deviation		30	535	6.88	n.a.	n.a.	n.a.
Coefficie	Coefficient of Variatic	(•	19.9	15.4	59.8	n.a.	n.a.	n.a.

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Service, U. S. Department of Agriculture.

1/ Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage n.a. - not available. <u>ر</u>

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PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22 (2d Re. 222) (Stations arranged according to latitude) 4 UNITED STATES INTERMOUNTAIN STATIONS

					SOWN-TR	SOUN-TO-HARVESTED		YIELDS	SC	16
State and	Latitude	Year	Date *	Date *	No. of	Summation	Beets:	Sucrose	Gross=/	Net-
Station			Sown	Harvested	Days	of Day-	per	Content	Sugar	Sugar
						Degrees	Acre		per Acre	per Acre
Washinoton						(°F.)	(tons)	(percent)	(tons)	(tons)
Toppenish	N,61.95	1945	Mar. 20	Oct. 8-12	204	4,958	36.40	16.37	5.959	n.a.
Idaho				٠.						
Jerome	45°44'N	1945	Apr. 19		189	4,060	21.24	16.76	3.560	3.178
=	<b>5</b>	1945	May 18	Oct. 26	191	3,740	12.73	16.61	2.114	1,787
E	t	1945	June 16	Oct. 29	135	3,252	8.62	n.a.	n.a.	n.a.
F	<b>E</b>	1945	July 5	Oct. 31	118	2,840	3.40	. ea.	n.a.	ח,ם,
Utah			•			•				• • •
Layton	41°05'N	1945	Apr. 17	Oct. 8-9	175	4,201	25.48	16.08	4.097	3.754
Granger	40°42'N	1943 Field 1	Apr. 1	Nov. 5	217	5,233	21.08	16.54	3.487	3,151
E	E	" Field 2	Apr. 1	Nov. 5	217	5,233	21.66	16.88	3.656	3.327
=	:	" Field 3	Apr. 1	Nov. 5	217	5,233	29.38	15.08	4.431	3.897
=	=	" Field 4	Apr. 1	Nov. 5	217	5,233	28.43	14.94	4.247	3.625
=	=	1944	Apr. 5-8	Oct. 23-25	203	4,469	20.94	14.82	3.103	2.600
=	=	1944	n.a.	n.a.	n.a.	n.a.	24.48	14.08	3.447	2.895
E	=	1945	Apr. 6-7	Oct. 10-16	190	4,294	28.71	15.73	4.516	3.961

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

3.218

.884

3.874

1.00

8.18

21.73

4,396 833 18.9

187

17.6

Mean ------

1/ Computed above 40°F. base. 2/ Gross sugar - Estimated total

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage not available. Net n.a. <u>)</u>

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 26

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety Imp. US 22 (or 222) (Stations arranged according to latitude) 2 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

## Harvested Days of Day Per Gontent Degrees Acre  ### 1944	State and	1841400	, , , , , , , , , , , , , , , , , , ,			SOWN-TO	SOWN-TO-HARVESTED		YIELDS	2	
May 20 Oct. 24 157 3,758 14.27 n.a. n.a. n.a. July 2-7 Oct. 25 115 2,927 3.55 n.a. n.a. n.a. n.a. Apr. 18 Oct. 28 193 5,029 26.13 14.08 3.679 Apr. 18 Oct. 28 193 5,029 24.35 16.25 3.957 3.55 n.a. n.a. n.a. n.a. n.a. n.a. n.a. n	Station	ann Track	rear	Soun *	Date	No. of	Summation	Beets:	Sucrose	Gross-	Net-3/-
May 20 Oct. 24 157 3,758 14.27 n.a. n.a. June 15 Oct. 24 131 3,262 6.14 n.a. n.a. July 2-7 Oct. 25 115 2,927 3.55 n.a. n.a. Apr. 18 Oct. 28 193 5,029 26.13 14.08 3.679 Apr. 18 Oct. 28 193 5,029 24.35 16.25 3.957  Apr. 18 Oct. 28 193 5,029 44.35 16.25 3.957  22.2 25.7 69.7 4/7 4/7 4/7				11800	וומו אפארפת	nays	ot Day- Degrees	per	Content	Sugar	Sugar
May 20         Oct. 24         157         3,758         14.27         n.a.         n.a.         n.a.           June 15         0ct. 24         131         3,262         6.14         n.a.         n.a.         n.a.           July 2-7         0ct. 24         131         3,262         6.14         n.a.         n.a.         n.a.           Apr. 18         0ct. 28         193         5,029         26.13         14.08         3.679         3.16           Apr. 18         0ct. 28         193         5,029         24.35         16.25         3.957         3.56           3.56         193         1,031         10.38         4///4/4         4///4/4           Apr. 18         1001         14.89         4///25         4///4/4           3.56         4///4         4///4/4         4///4/4	Idaho						(°F.)	(tons)	(percent)	(tons)	per Acre (tons)
Apr. 18         Oct. 28         193         5,029         26.13         14.08         3.679         3.18           Apr. 18         Oct. 28         193         5,029         24.35         16.25         3.957         3.16           3.5         1,031         10.38         4/4	Jerome	42°44'N "	1944 1944 1944	May 20 June 15 July 2-7		157	3,758 3,262	14.27	а а .	n.a. n.a.	п.а. а.
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	<u>Utah</u> Sandy	N. 5E. 07	1943-Field " Field	Apr. 18		193	5,029	26.13	n.a. 14.08	n.a. 3.679	n.a. 3.188
$\begin{array}{cccccccccccccccccccccccccccccccccccc$					. 1	193	5,029	24.35	16.25	3.957	3.569
	MeanStandard Dev	lation of Variation	(%)			158 35 22.2	4,001 1,031 25.7	14.89 10.38 69.7	र्ग र्ग र	<u>क्रीकृति</u>	71713

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity factor). The purity factor (also called the purity coefficient) is the ratio between percentage Net Sugar -

sucrose in the beets harvested and the percentage total soluble substances in the beets harvested, Not computed because of small number of cases. not available.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 27

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PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 22 (722)

Granger, Utah Latitude 40°42' N

			-NMOS	SOWN-TO-HARVESTED		YIELDS	7.7	3/
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose	Gross Sugar	Net Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre	per Acre
				(°F.)	(tons)	(percent)	(tons)	(tons)
1939	Apr. 4		205	4,911	27.42	16.52	4.530	4.026
1940-Field 1	Apr. 13	Nov. 1	202	5,504	26.58	17.88	4.753	4.161
" Pield 2	Apr. 13		199	5,456	28.25	16.82	4.752	4.183
" Pield 3	Anr. 13	Nov. 13	214	5,504	29.04	13.75	3.993	3.208
" Pield 4	Apr. 13		187	5,264	29.50	15 59	4.894	4.252
" Field 5	Apr. 13		215	5,504	31.46	15.41	4.833	4.082
								- 4.
			204	5,357	28.71	16.16	4.626	3.985
Standard Deviation	ttion		10	225	1.62	1.32	.305	.325
Coefficient of Variation (Z)	Wariation (	(2	6.4	4.2	5.6	8.2	9.9	8.2

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in and beets)..

Net sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage ر اع

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22 (722) 9 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

(Stations arranged according to latitude)

					SOWN-TC	SOWN-TO-HARVESTED		<b>YIELDS</b>		7,
State end	Latitude	Year *	Date **	Date **	No. of	Summation	Beets:	Sucrose	Gross-	Net-
Station			Sown	Harvested	Days	of Day-	per	Content	Sugar	Sugar
					•	Degrees	Acre		per Acre	per Acre
Vachinaton						(°F.)	(tons)	(percent)	(tons)	(tons)
Topporteh	N'01°77	1938	Mar. 28	Oct. 28	202	5,358	24.77	15.45	3.827	3.466
nernaddor "		1939	Mar. 27	Oct. 16	203	5,031	26.38	17.24	4.548	4.074
Idaho					,	1			0.0	337 6
Idaho Falls	43°29'N	1939	Apr.18-19	Oct. 21	186	3,617	16.53	18.26	3.018	7.033
Ruhl	=	1938	Apr. 29	Oct. 12	166	4,027	28.66	16.06	7.600	n.a.
j =	=	1939	May 8	n.a.	n.a.	n.a.	24.00	16.38	3.641	n.a.
Tein Polle	N, CE, C7	1938	Apr. 4-7	Oct. 21	200	4,254	29.58	15.14	•	4.018
27127 1111	:	1940	Apr. 18-19	-	187	609, 5	32.93	15.60	5.137	4.681
Utah						,	1	•	ŗ	
Garland	N, 77, 17	1938	Apr. 9	Nov. 22	227	4,638	35.91	•	5.031	4.135
9	N.97,07 -113	1938	Apr. 13	Nov. 2-10	207	4,897	31.70	13.78	4.368	3.730
Granger	N, 67, 07	1939	Apr. 4		205	4,911	27.42	16.52	4.530	4.026
1291112		1940-Field 1	Apr. 13		202	5,504	26.58	17.88	4.753	4.161
=	=	" Field 2	Apr. 13		199	5,456	28.25	16.82	4.752	4.183
=	=			Nov. 13	214	5,504	•	13.75	3.993	3.208
=	=	" Field 4			187	5,264	29.50	16.59	4.894	4.252
=	=				215	5,504	31.46	15.41	4.833	4.082
Doot Torden	N, CE 07		Apr. 14		195	4,680	16.81	15.97	•	2.463
= = = =		1939	Apr. 26-27	Oct. 23	180	4,470	17.33	18.28	•	2,848
Sevier Valley 38°35'N	ey 38°35'N	1938	Apr. 20	Oct. 18	181	4,314	23.19	15.96	3.701	3.275
Voor					197	4,826	26.67	16.06	4.220	3.704
Ctondord Dowinsting	24 4 CB				15	589	5.26	1.319	.767	•674
Coefficient of Variation (7)	f Variation (	(2)			7.6	12.2	19.7	.8.2	18.2	18.2
OCTITATION O		(m)								

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research

Service, U. S. Department of Agriculture. Computed above 40° F. base.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Net sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage

Some years were not included in this series due to lack of either phenological records or temperature data. \*\* Day-degree computations were made on the basis of averages of dates indicated.

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PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety (Orig.) US 22 (922)

Latitude 40°42'N Granger, Utah

			-NMOS	OWN-TO-HARVESTED		YIELDS		, 0
Crop	Date	Date **	No. of	Summation of	Beets:	Sucrose	Gross 2/Sugar	Net 27 Sugar
Year*	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre	per Acre
				(°F.)	(tons)	(percent)	(tons)	(tons)
1940-Field 1	Apr. 13	Nov. 1	202	5,504	25.49	17.80	4.537	3.987
" Field 2	Apr. 13	Oct. 29	199	5,456	28.45	16,38	7.660	4.049
" Field 3	Apr. 13	Nov. 13	214	5,504	28.34	13.62	3.860	3,074
" Field 4	Apr. 13	Oct. 17	187	5,264	28.86	16.54	4.773	4.160
" Field 5	Apr. 13	Nov. 14	215	5,504	32.25	15.67	5.054	4.280
1942	May 11-12	Oct.26-Nov.2	172	4,352	25.67	15.51	3.981	3,344
1943-Field 1	Apr. 1	Nov. 5	217	5,233	21.98	16.46	3.618	3.260
" Field 2	Apr. 1	Nov. 5	217	5,233	22.42	16.52	3.704	3.298
" Field 3	Apr. 1	Nov. 5	217	5,233	29.30	15.40	4.512	3,962
Mean		Mean	204	5,254	26.97	15.99	4.300	3.713
Standard Deviation	tion		16	268	3.43	1.04	.568	.523
Coefficient of	Variation	Coefficient of Variation	7.8	5.1	12.7	6.5	13.2	14.1

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets). 151

Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage \* Data for year 1941 not available. Net <u>را</u>

\*\* Day-degree computations were made on the basis of averages of dates indicated.

TABLE 30

PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety (Orig.)US 22 (922)

Latitude 42°36'N Buhl, Idaho

			SOMN-	OWN-TO-TARVESTED		XIE	YIELDS	2 /
Crop	Dete	Date	No. of	Summation of	Beets:	Sucrose	Gross2/Sugar	Net-7'Sugar
Year	Sown	Harvasted	Davs	Day-Degrees	per Acre	Content	per Acre	per Acre
				(°F.)	(tons)	(percent)	(tons)	(tons)
1940	Apr. 10	Oct. 14	187	4,493	27.09	16.18	4.383	4.055
1940	June 6	0ct. 15	131	3,521	9.47	16.33	1.546	1.421
1961	Mar. 7	0ct. 6-7	214	3,867	16.97	16,44	2.790	2.474
1941	Apr. 4	Oct. 6-7	186	3,771	16.67	17.46	2.911	2.480
1961	May 1	Oct. 6-7	159	3,582	13.04	18.08	2.358	2.010
				170 6	16.66	00 31	2 708	7,88
Standard Deviation	ard Deviation		1/5 31	334	5.41	.87	.852	.786
Coefficient o	Coefficient of Variation (%)	(2	17.7	8.7	32.5	5.1	30.4	31.6

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage

TABLE 31

1/ PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety (Orig.)US 22(922)

Jerome, Idaho Latitude 42°44'N

			-NMOS	WN-TO-HARVESTED		YIELDS	7.0	10
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose	Gross-/Sugar	Net 3/Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre	per Acre
				('F')	(tons)	(percent)	(tons)	(tons)
1944	May 20		157	3,758	12.21	n.a.	n.a.	n.a.
1944	June 15		131	3,262	5.51	n.a.	n.a.	n.a.
1944	July 2-7	Oct. 25	115	2,927	2.05	n.a.	n.a.	n.a.
1945	June 16		118	2,840	6.72	n.a.	n.a.	n.a.
1945	July 5	Oct. 31	135	3,252	2.50	n.a.	n.a.	n.a.
1947	May 20	Oct. 13	146	3,744	6.47	n.a.	n.a.	n.a.
1948	June 25	Nov. 4	129	2,897	2.80	n.a.	n.a.	n.a.
Mean	Kean		133	3.240	5.47	n.a.	n.a.	n.a.
Standard Dev	Standard Deviation	B B B B B B B B B B B B B B B B B B B	14	378	3.23	n.a.	n.a.	п.а.
Coefficient	Coefficient of Variation (%)	(2	10.5	11.7	5.90	n.a.	n.a.	n.a.
			;					

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets). "

sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage not available. Net n.a.

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety (Orig.) US 22 (922) (Stations arranged according to laticude) 5 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

					COLM-TO	SOLM-TO-HA DVRSTRD		VIETNE		
State and	Latitude	Year *	Date **	Date **	No. of	Summation	Beets:	Sucrose	Gross2/	Net.3/
Station			Sown	Harvested	Days	of Day-	per	Content	Sugar	Sugar
						Degrees	Acre		per Acre	per Acre
Idaho						(°F.)	(tons)	(percent)	(5005)	(tons)
Jerome	N, 77, 77	1944	May 20	Oct. 24	157	3,758	12.21	n.a.	\$	n.a.
=	:	1944	June 15	Oct. 24	131	3,262	5.51	n.a.	# . L	n.a.
=	=	1944	July 2-7	Oct. 25	115	2,927	2.05	n.a.	e di	п.а.
=	:	1945	June 16	Oct. 29	118	2,840	6.72	n.a.	:4	n.a.
Ξ	=	1945	July 5	Oct. 31	135	3,252	2.50	n.a.	n.a.	n.a.
=	:	1947	May 20	Oct. 13	146	3,744	6.47	n.a.	n.a.	n.a.
=	=	1948	June 25	Nov. 4	129	2,897	2.80	n.a.	n.a.	n.a.
Buh1	42°36'N	1940	Apr. 10	Oct. 14	187	4,493	27.09	16.18	4.383	4.055
=	=	1940	June 6	Oct. 15	131	3,521	6.47	16.33	1.546	1.421
=	=	1941	Mar. 7	Oct. 6-7	214	3,867	16.97	16.44	2.790	2.474
=	=	1941	Apr. 4	Oct. 6-7	186	3,771	16.67	17.46	2.911	2.480
=	=	1941	May 1	Oct. 6-7	159	3,582	13.04	18.08	2.358	2.010
Twin Falls	42°32'N	1940	Apr. 18-19	Oct.21-22	187	609, 4	33.00	15.55	5.131	4.690
=	=	1941	Apr. 21	Oct.13-14	176	3,824	28.10	17.80	5.002	4.168
=	=	1942	Apr. 24	Oct.13-14	173	3,905	29.76	16.19	4.818	4,068
*	=		Apr. 11, 15, 18	Oct.11-12	180	3,980	29.24	15.97	4.670	4.001
Utah										
Granger	40°42'N	1940-Field 1	Apr. 13	Nov. 1	202	5,504	25.49	17.80	4.537	3.987
=	:	" Field 2	Apr. 13	Oct. 29	199	5,456	28.45	16.38	4.660	4.049
=	:	" Field 3	Apr. 13	Nov. 13	214	5,504	28.34	13.62	3.860	3.074
=	=	" Field 4		Oct. 17	187	5,264	28.86	16.54	4.773	4.160
=		" Field 5	Apr. 13	Nov. 14	215	5,504	32.25	15.67	5.054	4.280
=	=	1942	May 11-12	Oct.26-Nov.2	172	4,352	25.67	15.51	3.981	3.344
=	=	1943-Field 1	Apr. 1	Nov. 5	217	5,233	21.98	16.46	3.618	3.260
=	:	" Field 2	Apr. 1	Nov. 5	217	5,233	22.42	16.52	3.704	3.298
=	=	" Field 3	Apr. 1	Nov. 5	217	5,233	29.30	15.40	4.512	3.962
Sandy	40°35'N	1943-Field 1	_	Oct. 28	193	5,029	25.95	14.55	3.776	3.327
=	=	" Field 2	Apr. 18	Oct. 28	193	5,029	24.64	16.22	3.997	3.571
Yean					176	4,280	19.81	16.23	4.004	3.484
Standard Deviation	ation		1 1 1 1 4 4 1 1	1 1 1 1 1 1 1 1 1	34	1,002	11.47	0.937	.940	.836
Coefficient of Variation	f Variation	(%)			19.3	23.4	57.9	5.8	23.5	24.0

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Gross Sugar - Estimated total sugar content per acre (tons of beets per acre multiplied by percentage sucrose in the beets).

factor). The purity factor (also called the purity coefficient) is the ratio between percentage sucrose 3/ Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity in the beets harvested and the percentage total soluble substances in the beets harvested.

n.a. - not available. \* Some years were not included in this series due to lack of either phenological records or temperature data.

\*\* Dey-degree computations were made on the basis of averages of dates indicated.

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SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 22 5 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude) PHENOLOGY, DAY-DEGREE

					-NMOS	SOWN-TO-HARVESTED	VIETDE	96
Variety and	•	;	Date	Date *	No. of	Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(percent)
US 22 (1st Re.922) Toppenish, Wash.	N,61,97	1945	Mar. 20	Oct. 8-12	204	4,958	35.31	16.16
US 22 (222) Toppenish, Wash. Blackfoot, Idaho	46°19'N 43°11'N	1946	Mar. 9	Oct. 9-10	215	4,848	34.81	15.58
	<b>i</b> 	)	; ;	5	) } 	•	20.33	17.50
Orig. US 22 Jerome, Idaho	N. 77, 27	1948	May 20	Nov. 4	168	3,773	16.40	! ! !
Buhl, Idaho	42°36'N	1939	Apr. 21	Oct. 20	182	4,333	29.11	17.13
US 22 (or 022) Twin Falls, Idaho 42°32'N	42°32'N	1941	Apr. 21	Oct. 13-14	176	3,824	28.18	17.02
, , , , , , , , , , , , , , , , , , ,								
Standard Deviation				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	189	4,347	27.36	16.68
Coefficient of Veri		 	; ; ; ; ; ; ; ; ; ; ;		21	557	7.51	.81
contratent of Agriacion (4)	(%) uolla		; ; ; ; ; ; ; ; ;	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11.1	12.8	27.4	6.4

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Computed above 40°P. base. \* ا<del>ن</del>

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 34

PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 7 (87)

Latitude 42°36'N Buhl, Idaho

					XIELDS	LDS
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
				(°F.)	(tons)	(percent)
1939	May 8	n.a.	n,a•	n.a.	23.25	16.69
1940	Apr. 10	Oct. 14	187	4,493	27.04	16.09
1940	June 6	Oct. 15	131	3,521	10.00	15.84
1941	Mar. 7	Oct. 6-7	214	3,867	16.80	16.45
1941	Apr. 4	Oct. 6-7	186	3,771	16.24	17.53
1961	May. 1	Oct. 6-7	159	3,582	11.90	17.62
MeanStandard Deviation			175	3,847	17.54 6.35	16.70
Coefficient of Variation (A)	riation (%)		1/./	<b>%</b>	36.2	<b>†•</b>

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1 Computed above 40°F. base.

FHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 7 (87)

Granger, Utah Latitude 40°42'N

			-NMOS	SOWN-TO-HARVESTED	YIELDS	DS
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose
Year	Sown	Harvested	Daye	Day-Degrees	per Acre	Content
				(°F)	(tons)	(percent)
1939	Apr. 4	Oct. 26	205	4,911	27.23	16.73
1940-Field 1	Apr. 13	Nov. 1	202	5,504	25.73	17,63
" Field 2	Apr. 13	Oct. 29	199	5,456	28.27	16.60
" Pield 3	Apr. 13	Nov. 13	214	5,504	27.70	13.38
Pield 4	Apr. 13	Oct. 17	187	5,264	29.16	15.97
" Field 5	Apr. 13	Nov. 14	215	5,504	31,68	15.27
1941	Mar. 28	Oct. 21	207	4,572	30.37	16.89
ne et	ne of		204	5,245	28.59	16.07
tandard Deviat	Standard Deviation		6 7.7	361	1.94	1.28 8.0

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1 Computed above 40°F. base.

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 7 (87) 3 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude) PHENOLOGY, DAY-DEGREE :

					SOWN-	SOWN-TO-HARVESTED	YIELDS	DS
State and			Date	Date	No. of	Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(percent)
Utah								
Taylorsville	N,95,05	1941	Apr. 1	Oct. 13	195	4,488	25.18	13.86
Granger	40°42'N	1939	Apr. 4	Oct. 26	205	4,911	27.23	16.73
) <u>=</u>	=	1940-Field 1	Apr. 13	Nov. 1	202	5,504	25.73	17.63
5	=	" Field 2	Apr. 13	Oct. 29	199	5,456	28.27	16.60
Ξ	=	" Field 3	Apr. 13	Nov. 13	214	5,504	27.70	13.38
2	=	" Field 4	Apr. 13	Oct. 17	187	5,264	29.16	15.97
=	=	" Field 5	Apr. 13	Nov. 14	215	5,504	31.68	15.27
=	=	1941	Mat. 28	Oct. 21	207	4,572	30.37	16.89
West Jordan	40°32'N	1939	Apr.26-27	Oct. 23	180	4,470	17.08	18.33
						250.2	20 30	16.03
Rean					700	5,0,0	20.93	70.01
Standard Deviation	uo				11	517	3.57	1.62
Coefficient of Variation (%)	'ariation $(% 2)$			!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	5.5	10.2	13.3	10.1

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1 Computed above 40°F, base.

TABLE 37

SUPPRATIONS, AND YIELDS OF SUGAR BEETS - Variety US 7 (87) 5 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude) PHENOLOGY, DAY-DEGREE  $\frac{1}{5}$ 

					NMOS	SOWN-TO-HARVESTED	YIELDS	DS
State and			Date	Date	No. of	Summation of	Beets:	Sucrose
Stotion	Tatitude	Vear	Sown	Harvested	Days	Day-Degrees	per Acre	Content
Station						(°F.)	(tons)	(percent)
Idaho	•	•	;	,	1	1	23 25	16.69
Buhl	42°36'N	1939	May &	n.a.	n.a.	n.a.	67.67	10.00
=	=	1940	Apr. 10	Oct. 14	187	4,493	27.04	•
=	=	1940		0ct. 15	131	3,521	10.00	•
=	Ξ	1941	Mar. 7	0ct. 6-7	214	3,867	16.80	16.45
=	=	1971	Apr. 4	0ct. 6-7	186	3,771	16.24	17.53
=	=	1961	May 1	0ct. 6-7	159	3,582	11.90	•
Trife Polle	NICEOCY	0761	Apr. 18-19	Oct.21-22	187	609, 7	32.25	15.84
ti II	: 10 7t	1941		Oct.13-14	176	3,824	28.02	17.61
Utah				!	1		1	70 61
Tavlorsville	N.97.07	1941	Apr. 1	0ct. 13	195	4,488	25.18	13.80
Granger	N, 67,07	1939	Apr. 4	Oct. 26	205	4,911	27.23	16.73
	; ; ;	1940-Field 1	Apr. 13	Nov. 1	202	5,504	25.73	17.63
=	=	" Field 2	Apr. 13	0ct. 29	199	5,456	28.27	16.60
u .	=			Nov. 13	214	5,504	•	13.38
=	2	" Field 4	_		187	5,264	29.16	15.97
Ξ	Ξ	- Field 5			215	5,504	31.68	15.27
2	=				207	4,572	30.37	16.89
West Jordan	40°32'N	1939	26		180	4,470	17.08	18.33
				1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	190	4,584	23.99	16.37
Charles Downston				1 1 1 1 1 1 1	21	731	7.18	1.23
Scandary Deviation (%)	Zariation (%)			!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	11.1	15.9	29.9	7.5
מפודדרות כי								

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1/ Computed above 40°F. base.
n.a. - not available.

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 7 (87) 7 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude) PHENOLOGY, DAY-DEGREE

					SOWN-	SOWN-TO-HARVESTED	YIE	YIELDS
State and			Date	Date	No. of	Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day Degrees	per Acre	Content
Voohington						(°F.)	(tons)	(percent)
Toppenish	N,61,97	1939	Mat. 27	Oct. 16	203	5,031	26.16	17.15
Idaho								
Idaho Falls	43°29'N	1939	Apr. 18-19	Oct. 21	186	3,617	16.30	18.22
Buh 1	42°36'N	1939	May 8	n.a.	n.a.	n.a.	23.25	16.69
<b>8</b> P	=	1940	Apr. 10	Oct. 14	187	4,493	27.04	16.09
:	=	1940	June 6	Oct. 15	131	3,521	10.00	15.84
=	=	1941	Mar. 7	Oct. 6-7	214	3,867	16.80	16.45
=	=	1941	Apr. 4		186	3,771	16.24	17.53
:	=	1941	May 1	Oct. 6-7	159	3,582	11.90	17.62
Twin Falls	42°32'N	1940	Apr. 15-19	Oct. 21-22	187	4,609	32.25	15.84
=	=	1941	Apr. 21	Oct. 13-14	176	3,824	28.02	17.61
Utah								
Taylorsville	N,95,05	1941	Apr. 1	Oct. 13	195	4,488	25.18	13.86
. Granger	40°42'N	1939	Apr. 4	Oct. 26	205	4,911	27.23	16.73
:	=	1940-Field 1	Apr. 13	Nov. 1	202	5,504	25.73	17.63
<b>=</b>	=	" Field 2	Apr. 13	Oct. 29	199	5,456	28.27	16.60
r	=	" Field 3		Nov. 13	214	5,504	27.70	
=	=		Apr. 13	Oct. 17	187	5,264	29.16	15.97
=	=	" Field 5		Nov. 14	215	5,504	31.68	
:	=	1941	Mat. 28	Oct. 21	207	4,572	30.37	
West Jordan	40°32'N	1939	Apr. 26-27	Oct. 23	180	4,470	17.08	18.33
					-		١,	13 7
Mean					191	4,555	23.70	10.01
Standard Deviation					19	747	7.16	2
Coefficient of Variation (7)	riation (%)			!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	6.6	16.4	30.2	7.5

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.
1/ Computed above 40°F. base.
n.a. - not available.

TABLE 39

PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 10 (or 910)

Granger, Utah Latitude 40°42'N

			T-NWOS	SOUN-TO-HARVESTED	YIELDS	
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose
Year	Sown	Harvested	Days	Day-Degrees (°F.)	tons)	(percent)
1940-Field 1			202	5,504	24.90	18.36
" Field 2	Apr. 13	Oct. 29	199 214	5,504	25.66	14.24
" Field 5	Apr. 13	Oct. 17	187	5,264	26.25	17.08
" Field 5	Apr. 13	Nov. 14	215	5,504	30.11	
Mean			203	5,446	26.63 1.74	16.67 1.59
Standard Deviation	ion Variation (7)		5.4	1.7	6.5	9.5

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1 Computed above 40°F. base.

TABLE 40

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 10 (or 910) 2 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

					NOS	SOWN-TO-HARVESTED	X LELUS	
77070			Date	Date	No. of	Summation of	Beets:	Sucrose
orare and	T - 1 - 1 - 1	VON	Soun	Harvested	Days	Day-Degrees	per Acre	Content
Station	Lacicode					(°F.)	(tons)	(percent)
Idaho								
Twin Falls	42°32'N	1940	Apr.18-19	Oct. 21-22	187	609,4	29.67	16.33
Utah			C 1 1 2	No. 1	202	5.504	24.90	18.36
Granger	40.42.N	1940-Field I	Apr. 13	NOV. 1	199	5,456	26.24	17.75
<b>F</b>	=		Apr. 13	OCL	77.0	, y	25.66	14.24
=	=	" Field 3	Apr. 13	Nov. 13	<b>517</b>	ton ()		
=	=	" Field 4	Anr. 13	Oct. 17	187	5,264	26.25	17.08
<b>*</b> ,	=	" Field 5	Apr. 13	Nov. 14	215	5,504	30.11	15.93
		1		1 1 2 1 1	201	5,307	27.14	16.62
Mean sections				1 1 1 1 1	12	309	2.31	1.40
Standard Deviation Coefficient of Variation (%)	on ====== ariation (	(2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 	0.9	5.8	8.5	8.4

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. 1/ Computed above 40°F. base. Source:

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SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 10 (or 610) 5 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude) Phenology, day-degree

					-NMOS	SOWN-TO-HARVESTED	VIELDS	LDS
State and			Date	Date *	No. of	Summation of	Beets:	Sucrose
State	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
Scarton						(°F.)	(tons)	(percent)
<u>Utah</u> Garland	N, 57, 17	1938	Apr. 9	Nov. 22	227	4,638	32.93	14.40
Salt Lake City	N.95.05	1938	Apr. 13	Nov. 2-10	207	4,897	26.80	15.10
Granger	40°42'N	1939	Apr. 4	Oct. 26	205	4,911	25.14	17.48
West Jordan	40°32'N	1933 1939	Apr. 14 Apr. 26-27	Oct. 26 Oct. 23	195 180	4,680 4,470	15.29 15.72	16.31 18.90
Sevier Valley	38°35¹N	1938	Apr. 20	Oct. 18	181	4,314	20.83	16.41
Mean	1 1 1				199 17 8.5	46.52 223 4.8	22.79 6.89 30.2	16.43 1.47 8.9

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1/ Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

SUPPRATIONS, AND YIELDS OF SUGAR BEETS - Variety US 10 (or 610) (Stations arranged according to latitude) 7 UNITED STATES INTERMOUNTAIN STATIONS  $\frac{1}{2}$ 

					I-NMOS	SOWN-TO-HARVESTED	VIELDS	DS
State and			Date *	Date *	No. of	Summation of	Beets:	Sucrose
Statton	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
סנפרנסת	333343					(°F.)	(tons)	(percent)
Idaho Ruh 1	N,98,67	1938	Apr. 29	Oct. 12	166	4,027	25.26	15.96
Twin Palls	42°32'N	1938	r.	Oct. 21	200	4,254	25.67	15.53
Utah					!		0	\ \ \ \
Garland	41°44'N	1938	Apr. 9	Nov. 22	227	4,638	32.93	14.40
Salt Lake City	N,97,07	1938	Apr. 13	Nov. 2-10	207	4,897	26.80	15.10
Granoer Iltah	40°42'N	1939	H		205	4,911	25.14	17.48
West Jordan	40°32'N	1938			195	4,680	15.29	16.31
	; ; ;	1939	Apr. 26-27		180	4,470	15.72	18.90
Sevier Valley	38°35'N	1938		Oct. 18	181	4,314	20.83	16.41
								70 71
Hean				4	195 18	4,524 323	5.80	1.27
Coefficient of Variation (%)	riation (%)			1 1 1 1 1 1	9.2	7. 4	24.7	7.8

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

<sup>1/</sup> Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 43

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 10 (or 610) 9 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude) PHENOLOGY, DAY-DEGREE

					ST MAN	CONTRACTOR THE DEVICE OF THE DE	VIELDS	S
State and			Date *	Date *	No. of	Summation of Dav-Degrees	Beets:	Sucrose
Station	Latitude	Year	Sown	narvesteu		(°F.)	(tons)	(percent)
Washington	21000	1038	Mar. 28	Oct. 16	202	5,358	20.21	15.62
Toppenish "	N 61 97	1939	Mar. 27	Oct. 16	203	5,031	23.18	17.74
Idaho		000	18-10	0ct. 21	186	3,617	16.32	18.51
Idaho Falls	43 29 N	1939	Apr. 10-17	Oct. 12	166	4,027	25.26	15.96
Buhl Twin Falls	42°36'N 42°32'N	1938 1938	Apr. 4-7		200	4,254	25.67	15.53
Utah			0	Nov. 22	227	4,638	32.93	14.40
Garland	N. 77. 17	1930	Apr. 7	Nov. 2-10	207	4,897	26.80	15.10
Salt Lake City	40.46'N	1930	Ci .ida		205	4,911	25.14	17.48
Granger	40 42 N	1939	Apr. 4		195	4,680	15.29	16.31
West Jordan	40_32.N	1930	Apr. 14		180	4,470	15.72	18.90
n n Serier Vallev	38°35'N	1939 1938	Apr. 20 Apr. 20		181	4,314	20.83	16.41
(2000)								
		1		1 1 1 1 1	196	4,563	22.49	16.54
Mean arrana arra	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6				16	487	5.48	1.47
Standard Deviation	n riation (%)			1 1 1 1	8.2	10.7	24.4	თ თ

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Computed above 40°P. base.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 44

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 11 (711)

4 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

						SOWN	SOWN-TO-HARVESTED	YIELDS	DS
State and			Date		Date *	No. of	Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown		Harvested	Days	Day-Degrees	per Acre	Content
							(°F.)	(tons)	(percent)
Utah									
Garland	41°44·N	1938	Apr.	6	Nov. 22	227	4,638	36.29	14.13
Salt Lake City	N.97.07	1938	Apr. 13	13	Nov. 2-10	207	4,897	27.49	14.06
West Jordan	40°32'N	1938	Apr. 14	14	Oct. 26	195	4,680	16.46	16.44
Sevier Valley	38°35'N	1938	Apr. 20	20	Oct. 18	181	4,314	22.11	16.06
MeanStandard DeviationCoefficient of Variation (%)	ation (%)					202 18 8.9	4,632 200 4.3	25.59 7.90 30.9	15.17 1.35 8.9

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

<sup>1/</sup> Computed above 40°P. base.

\* Day-degree computations were made on the

Day-degree computations were made on the basis of averages of dates indicated.

TAPLE 45

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SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 11 (711) 6 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude) PHENOLOGY, DAY-DEGREE

							ATELY.	90
				·	SOMN-1	SOWN-TO-HARVESTED	TTT	AU3
•			Date *	Date *	No. of	Summation of	Beets:	Sucrose
State and	•		0000	Harvested	Davs	Day-Degrees	per Acre Content	Content
Station	Latitude	rear	SOWII	2000		(°F.)	(tons)	(percent)
Idaho	0	1020	Anr 29	Oct. 12	166	4,027	28.27	15.80
Buhl Twin Falls	42°32'N	1938	pr.	0ct. 21	200	4,254	27.66	15.40
Utah	***	1026	Anr. 9	Nov. 22	227	4,638	36.29	14.13
Garland	N 55 15	1030	Apr 13	Nov. 2-10	207	4,897	27.49	14.06
Salt Lake City	40.46 N	1930			195	4,680	16.46	16.44
West Jordan	40°32'N	1938	Apr. 20		181	4,314	22.11	16.06
Sevier valley	א רר פר		•					
					196	4,468	26.38	15.32
Mean		2	1		19	338	5.93	1.01
Standard Deviation					9.7	7.6	22.5	9.9
Coefficient of Variation (%)	iation (%)				) )			

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 46

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 11 (711) (Stations arranged according to latitude) 7 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE  $\frac{1}{2}$ 

						-NMOS	SOWN-TO-HARVESTED	XIELDS	DS
State and			Date *		Date *	No. of	Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown	Harv	Harvested	Days	Day-Degrees	per Acre	Content
							(°F.)	(tons)	(percent)
Washington Toppenish	N,61,97	1938	Mar. 28		Oct. 16	202	5,358	22.40	15.60
Idaho B.h.	N. 98067	1038	Anr 20	400	12	166	7.00.7	28.27	15.80
Twin Falls	42°32'N	1938		7		200	4,254	27.66	15.40
Utah								,	
Garland	N. 55, 15	1938	6 2d₩	No	Nov. 22	227	4,638	36.29	14.13
Salt Lake City	N,95,05	1938	Apr. 13	3 Nov.	v. 2-10	207	4,897	27.49	14.06
West Jordan	40°32'N	1938	Apr. 14	4 Oct.	t. 26	195	7,680	16.46	16.44
Sevier Valley	38°35'N	1938	Apr. 20	0 Oct.	t. 18	181	4,314	22.11	16.06
						1			
Kean				1 1 1 1 1 1 1 1 1	!!!!!	197	4,595	25.81	15.36
Standard Deviation					1 1 1	17	427	5.89	06.
Coefficient of Variation (%)	lation (%)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1	!!!!!	8.6	9.3	22.8	5.9

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1. Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 47

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 12 (618)

## 3 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

•			,		SOWN-TO	SOWN-TO-HARVESTED	YIELDS	DS
State and Station	Latitude	Year	Date * Sown	Date * Harvested	No. of Days	Summation of Day-Degrees	Beets: pe. Acre	Sucrose
						(°F.)	(tons)	(percent)
Idaho Twin Falls	42°32'N	1938	Apr. 4-7	Oct. 21	200	4,254	25.51	15.19
Utah Salt Lake City		1938		Nov. 2-10	207	4.897	24.80	α α
Sevier Valley	38°35'N	1938	Apr. 20	Oct. 18	181	4,314	20.66	15.97
Mean					196	4,488	23.66	15.01

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

<sup>1/</sup> Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

TARIE 48

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 15 (or 315) 3 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude) PHENOLOGY, DAY-DEGREE  $\frac{1}{2}$ 

7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			ı	÷	SOWN	SOWN-TO-HARVESTED	YIELDS	SC
State and	•	;	Date	Date *	No. of	No. of Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(percent)
Jerome, Idaho	45°44'N	1949	Apr. 26	Oct. 26	183	4,192	4.30	;
Layton, Utah	41°05'N	1945	Apr. 17	Oct. 8-9	175	4,201	23.05	16.48
Granger, Utah	40°42'N	1945	Apr. 6-7	Oct. 10-16	190	4,294	27.59	16.12
Mean					183	4,229	18.31	16.30

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

<sup>1/</sup> Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 24 (824) 5 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

					-NMOS	SOWN-TO-HARVESTED	YIELDS	LDS
State and	•	:	Date	Date	No. of	Summation of	Beets:	Suc ross
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(percent)
Toppenish, Wash.	N,61,97	1939	Mar. 27	Oct. 16	203	5,031	23.15	17.61
Idaho Falls, Idaho	43°29'N	1939	Apr. 18-19	Oct. 21	186	3,617	16.28	18.18
Buhl, Idaho	45°36'N	1939	Apr. 21	Oct. 20	182	4,333	24.54	17.87
Granger, Utah	40°42'N	1939	Apr. 4	Oct. 26	205	4,911	24.55	17.19
West Jordan, Utah	40°32'N	1939	Apr. 26-27	Oct. 23	180	4,470	15.97	18.95
								median immediancy). Individual const.
Standard Deviation					191 13	4,472 500	20.90	17.96
coefficient of Variation (A)	(%) not	 	; ; ; ; ; ; ; ;	 	χ.	11.2	22.9	~ ~

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research 1. S. Department of Agriculture.

| Computed above 40°F. base.

TABLE 50

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 23 (723)
5 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

					SOWN-T	SOWN-TO-HARVESTED	VIELDS	SC
State and			Date	Date *	No. of	Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(bercent)
Utan Garland	N, 57° 17	1938	Apr. 9	Nov. 22	227	4,638	36.36	13.75
Salt Lake City	N,97°07	1938	Apr. 13	Nov. 2-10	207	4,897	29.17	14.02
Granger	40°42'N	1939	Apr. 4	Oct. 26	205	4,911	27.76	16.17
West Jordan	40°32'N	1938	Apr. 14		195	4,680	18.43	16.22
=	=	1939	Apr. 26-27	0ct. 23	180	4,4/0	17.09	10.31
Sevier Valley	38°35'N	1938	Apr. 20	Oct. 18	181	4,314	23.39	15.71
Mean					199 17	4,652 223	25.37	15.70
Coefficient of Variation (%)	riation (%)			3	0.0	‡ 0	6.02	

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

<sup>1/</sup> Computed above 40°F. base.

Day-degree computations were made or the basis of averages of dates indicated.

TABLE 51

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 23 (723) (Stations arranged according to latitude) 7 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

					E MANO	demonstration of	10111	
State and			Date *	Date *	No. of	SUMN-IU-HARVESIED	Reers.	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(percent)
Idaho R.h 1	N175°C7	1938	Apr. 29	000	166	7 00 7	25.29	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
Twin Falls	42°32'N	1938	Apr. 4-7	0ct. 21	200	4,254	27.37	14.78
			•					
Utah								
Garland	N, 77°, 17	1938	Apr. 9	Nov. 22	227	4,638	36.36	13.75
Salt Lake City	N,95,05	1938	Apr. 13	Nov. 2-10	207	4,897	29.17	14.07
Granger	40°42'N	1939	r.		205	4,911	27.76	16.17
West Jordan	40°32'N	1938	Apr. 14	Oct. 26	195	4,680	18,43	16.22
:	w.	1939		Oct. 23	180	4,470	17.09	18.11
Sevier Valley	38°35'N	1938	Apr. 20	Oct. 18	181	4,314	23.39	1.5.71
Mean	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	195	4,524	25.61	15.60
Standard Deviation		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1	18	323	5.72	1.13
Coefficient of Variation (%)	riation (%)	; ; ; ; ;	0 4 8 8 8 8 8		9.2	7.1	22.3	8.5

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

<sup>1/</sup> Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

PHENOLOGY, DAY-DEGREE SUM ATIONS, AND YIELDS OF SUGAR BEETS - Variety US 23 (723) 9 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

•					-NMOS	SOWN-TO-HARVESTED	VIELDS	DS
State and			Date *	Date *	No. of	Summation of	Beets	8 10 1018
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
Washington						(°F.)	(tons)	(bercent)
Toppenish	N,61,95	1938	Mar. 28	Oct. 16	202	5,358	23.00	5 % S = -
=	=	1939	Mar. 27	0ct. 16	203	5 031	25.05	
Idaho				) ;	)	100.0	.0.03	11.63
Idaho Falls	N, 62, 87	1939	Apr. 18-19	Oct. 21	98T	3,617	17,98	œ.
Buh1	45°36'N	1938	Apr. 29		166	4.027	25.20	/0.01 7.0 0.1
Twin Falls	45°32'N	1938	Anr. 4-7	Oct 21	200	, 3 51.	77.70	( C " C "
Utah					200	t, 2, t	75.17	14.7
Garland	N, 77, 17	1938	Apr. 9	Nov. 22	22.7	4.638	36 36	7 2 7
Salt Lake City	N,95,05	1938	Apr. 13	Nov. 2-10	207	7,897	20.30	17. 03
Granger	40°42'N	1939	Apr. 4	Oct. 26	205	4,911	27.76	70°51
West Jordan	40°32'N	1938	Apr. 14	Oct. 26	195	4,680	18.43	16.27
	=	1939	Apr. 26-27		180	4,470	17.09	; = 2 2 2 2 2
Sevier Valley	38°35'N	1938	Apr. 20		181	4,314	23.39	15.71
								( ) 0 ) vibret diele many syllectenspille edifficiens men
Mean	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 8 3 3 4 8 8	8 8 8 8 8 8 8 8	0 3 8 8 8	196	4,653	24.63	16.01
Coefficient of Warrists 79%	1 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0 3 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	16	787	5.30	1.49
octiticient of Variation (A)	(%) uoraer	1 1 1 1 1 1 1		3 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8.2	10.7	21.5	6.3

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 53

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 41

Jerome, Idaho Latitude 42°44'N

				SOWN-	FO-HARVESTED	VIELD
		Date	Date	No.of	o.of Summation of	Beets per
Variety	Year	Sown	Harvested	Days	Day-Degrees	Acre
					(°F.)	(tons)
US 41 (or 6-8)	1947	May 20	Oct. 13	146	3,744	12.42
C.T. sel. US 41 (or 88-3)	1949	June 10	Oct. 25	137	3,352	6.4

Source: Based on data of the Sugar Beet Invostigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1/ Computed above 40°F. base.

TABLE 54

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YPELDS OF SUGAR BEETS - Variety US 41 (or 028) (Stations arranged according to latitude) 2 UNITED STATES INTERMOUNTAIN STATIONS

7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					SOWN-1	SOWN-TO-HARVESTED	YIELDS	DS
State and	Latitude	Year	Date Sown	Date * Harvested	No. of Days	Summation of Dav-Degrees	Beets:	Sucros
						(°F.)	(tons)	(percent)
Twin Falls, Idaho	42°32'N	1955	Apr. 22	Oct. 15	176	3,826	27.40	16.00
: :	<b>:</b> :	1956	Apr. 11-12	Oct. 22-24	195	4,206	32.80	17.80
:	=	1957	Apr. 17	Oct. 21	187	4,187	27.65	17.13
Taylorsville, Utah	N,97,07	1955	Apr. 13	Oct. 10	180	4,514	26.50	14.40
MeanStandard DeviationCoefficient of Variation (%)	ion (%)				184 8 4.3	4,183 224 5.4	28.59 2.64 9.2	16.33 1.42 8.7

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. 1/ Computed above 40°F. base.

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<sup>\*</sup> Day-degree computations were made on the basis of averages of dates indicated.

TABLE 55

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 41 (or 941) (Stations arranged according to latitude) 3 UNITED STATES INTERMOUNTAIN STATIONS

					NON	SOWN-IO-HARVESIED	1211	I LELLOS
State and Station	Latitude	Year	Date Sown	Date Harvested	No. of Days	No. of Summation of Days Day-Degrees	Beets: Sucream per Acre Control (rons)	Sucroser Content
						( E•)	( cup )	
Jerome, Idaho	45°44'N	1950	May 25	Oct. 8	136	3,308	9.30	1 3 7
Twin Falls, Idaho	42°32'N	1950	Apr. 17-18	Oct. 19	185	3,626	21.80	
Taylorsville, Utah	N,97,07	1950	Mar. 22	Oct. 2	194	4,280	33.40	12.01
Wean					172	3,738	21.50	13.66

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. 1/ Computed above 40°F. base.

PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS - Variety US 41 (78) (Stations arranged according to latitude) 4 UNITED STATES INTERMOUNTAIN STATIONS

,					-NMOS	SOWN-TO-HARVESTED	YIELDS	38
State and Station	Latitude	Vear	Date	Date *	No. of		Beets:	Sucrose
			T MOC	וומד אפסרפת	Days	(°F.)	(tons)	(percent)
Toppenish, Wash.	N. 61,97	1949	Apr. 8	Oct. 10-11	186	4,930	33.41	16.65
Twin Falls, Idaho	42°32'N	1948 1949	Apr. 8 Apr. 15	Oct. 11-12 Oct. 18-20	187 187	3,943 4,060	24.01 27.70	15.54
Granger, Utah "	40°42'N	1948 1948	Apr. 12 Apr. 16	Oct. 25-30 Nov. 1-2	199	4,982	24.30 20.02	14.91
Riverton, Utah	N,08,07	1949	Apr. 12	Oct. 26-27	198	4,713	22.90	15.25
MeanStandard DeviationCoefficient of Variation	ion				193 8 4.1	4,604 503 10.9	25.39 4.31 17.0	15.82

States: Based on data of the Sugar Reet Investigations Branch, Grops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

<sup>1/</sup> Computed above 40°F. base.
\* Dav-degree commutations more mode.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 57

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 56/2  $\frac{1}{2}$ PHENOLOGY, DAY-DEGREE

Jerome, Idaho Latitude 42°44'N

				I-NMOS	O-HARVESTED	YLELDS
		Date	Date	No. of	of Summation of	Beets per
V	Voar	Sown	Harvested	Days	Day-Degrees	Acre
Vallety	1504				(°F.)	(tons)
U.S. 56/2 (or 759) 1949	1949	Apr. 26	Oct. 26	183	4,192	11.6
U.S. 56/2 (or 859)	1949	Apr. 26	Oct. 26	183	4,192	10.9

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

 $\underline{1}$ / Computed above 40°F. base.

TABLE 58

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 56 (Stations arranged according to latitude) 2 UNITED STATES INTERMOUNTAIN STATIONS

					T-NMOS	SOWN-TO-HARVESTED	YIELDS
Station and Variety	Latitude	Year	Date Sown	Date * Harvested	No. of Days	Summation of Day-Degrees	Beets per Acre
Jerome, Idaho	N, 77° 27					(°F.)	(tons)
U.S. 56 U.S. 56 (656)		1948	May 20 Apr. 26		168 183	3,773 4,192	11.80
0.536 (sel.838	_	1949	Apr. 26	Oct. 26	183	4,192	13.6
Granger, Utah	40°42'N						
U.S. 56 (or 456)		1945	Apr. 6-7	Oct. 10-16	190	4,294	29.94
NeanStandard Deviation	lation (%)				181 8 4.4	4,113 213 5.2	16.68 8.30 49.8

Source. Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

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<sup>1/</sup> Computed above 40°F, base.

Day-degree computations were made on the basis of averages of dates indicated.

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 35/2 (824)

Nampa, Idaho Latitude 43°37'N

			SOWN-7	SOWN-TO-HARVESTED	YIELDS	DS
		Date	No. of	Summation of	Beets:	Sucrose
Year	Date Sown	Harvested	Days	Day-Degrees	per Acre	Content
				(°F.)	(tons)	(percent)
1953	Apr. 23		161	3,802	23.56	15.42
1954	Mar. 29	Oct. 29	214	4,320	79.97	17.78
1955	Apr. 11		207	•	26.10	17.80
1956	Apr. 15	Oct. 9	177	4,178	18,35	15.82
1957	Apr. 12	Oct. 12	183	4,208	25.95	15.38
MeanStandard DeviationCoefficient of Variation	MeanStandard DeviationCoefficient of Variation (7)		188 22 11.7	4,127 204 4.9	24.12 3.17 13.1	16.44 1.35 8.2

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

TABLE 60

PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS - Variety US 35/2 (824)

Granger, Utah Latitude 40°42'N

			-NMOS	SOWN-TO-HARVESTED	YIE	YIELDS
		Date	No. of	Summation of	Beets:	Sucrose
Year	Date Sown	Harvested	Days	Day-Degrees	per Acre	Content
				(°F.)	(tons)	(percent)
1950	Mar. 30	0ct. 9	193	4,398	26.70	16.60
1950	Mar. 30	Oct. 9-10	194	4,416	23.40	16.39
1951	Apr. 3	Oct. 13-15	194	4,639	26.70	14.98
1952	Apr. 24	Oct. 6-8	167	4,742	22,20	14.86
MeanStandard DeviationCoefficient of Variation	(3)		187 13 7.0	4,549 178 3.9	24.75 2.44 9.9	15.71 .99 6.3

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

TABLE 61

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 35/2 (824)

Latitude 41°58'N Lewiston, Utah

			-NMOS	SOUN-TO-HARVESTED	XIELDS	DS.
		Date	No. of	Summation of	Beets:	Sucrose
4		Hormostod	Davs	Day-Degrees	per Acre	Content
Year *	Date Sown	lial vesteo		(°F.)	(tons)	(percent)
,	•	00+ 00-01	188	3,537	19.14	16.49
1951	Apr. 10	•	177	3,495	20.01	17.11
1953	Apr. 16	Oct. 9	171	3,619	22.48	15.83
1954	Apr. 20	OCE: 8	165	3,379	16.60	16.80
1955	May 12	Oct. 24	184	3,780	23.94	18.47
1956	Apr. 10	OCE. 11	101	3 570	23,01	16.60
1957	Apr. 16	Oct. 11	0/1	3,0,0	- A	
;			177	3,564	20.86	16.88
Rean			∞	117	2.86	.75
Standard Dev Coefficient	Standard Deviation	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	4.5	3.3	13.7	7.7

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

Computed above 40°F. base. **≒** \*

Data for year 1952 not available.

TABLE 62

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 35/2 (824)

Twin Falls, Idaho Latitude 42°32'N

				-NWOS	SOWN-TO-HARVESTED	YIELDS	DS
•			Date **	No. of	Summation of	Beets:	Sucrose
Year *	Date Sown	Sown	Harvested	Days	Day-Degrees	per Acre	Content
					(°F.)	(tons)	(percent)
1949	Apr. 1	15	Oct. 18-20	187	4,060	25.10	17.35
1950		17-18	Oct. 19	185	3,626	19.50	15.94
1951		10		196	3,773	23.90	16.60
1951	Apr. 5	5		192	3,754	20.19	16.33
1953	•	21		177	3,886	24.28	18.07
1954	•	14		181	4,040	26.99	18.85
1955		12		183	3,823	30.30	16.20
1956	Apr. 7	7	Oct. 20	196	4,215	27.44	16.51
1957		25		174	4,081	27.95	16.30
Wean				186	3,918	25.07	16.90
Standard Deviation	ation		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<b>∞</b> :	202	3.46	66.
Coefficient of Variation (7)	f Variatic	··· (2) uo		4.3	5.2	13.8	٠,٠

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

\* Data for year 1952 not available.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 63

PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS - Variety US 35 (or 54)

Jerome, Idaho Latitude 42°44'N

		•	SOWN-	SOWN-TO-HARVESTED	YIELDS	DS
Year	Date Sown	Date	No.of	Summation of	Beets:	Sucrose
		Harvested	Days	Day-Degrees	per Acre	Content
				(°F.)	(tons)	(percent)
1946	May 9	Oct. 14-16	159	3,880	18.92	17.58
1947	May 20	Oct. 13	146	3,744	97.6	:
1948	June 25	Nov. 4	129	2,897	3.60	!
Kean	Hean	1	145	3,507	10.66	!

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research ivision, Agricultural Research Service, U. S. Department of Agriculture.

1/ Computed above 40°F. base.

TABLE 64

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 35/2 (024) (Stations arranged according to latitude) 4 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE  $\frac{1}{2}$ 

					SOWN-	SOWN-TO-HARVESTED	YIELDS	S
State and			Date	Date *	No. of	Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(percent)
Toppenish, Wash.	N,61°94	1951	Apr. 16	Oct. 9	176	4,731	25.15	16.76
Idaho Falls, Idaho	N,62°54	1951	Apr. 14	Sept.2-5-8	144	2,771	14.30	18.25
Taylörsville, Utah	N.95.05	1954	Apr. 8	Oct. 6	181	4,765	30.60	13.50
Granger, Utah	40°42'N	1951	Apr. 3	Oct.13-15	194	4,639	28.90	14.78
Mean	1				174 19 10.9	4,226 912 21.6	24.74 6.54 26.4	15.82 2.11 13.3

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

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<sup>1/</sup> Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 65 PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 35/2 (824) 11 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)

_			_	_		I-TO-HARVESTED	YIE	
State and			Date	Date *	No. of		Beets:	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content
						(°F.)	(tons)	(percent
Washington				_				
Toppenish	46°19'N	1951	Apr. 16	Oct. 9	176	4,731	24.96	16.42
<u>Idaho</u>								
Nampa	43°37'N	1953	Apr. 23	Oct. 1	161	3,802	23.56	15.42
n	**	1954	Mar. 29	Oct. 29	214	4,320	26.64	17.78
11	11	195 <b>5</b>	Apr. 11	Nov. 4-5	207		26.10	17.80
11	11	1956	Apr. 15	Oct. 9	177	4,178	18.35	15.82
11	11	1957	Apr. 12	Oct. 12	183	4,208	25.95	15.38
Idaho Falls	43°29'N	1951	Apr. 14	Sept.2-5-8	144	2,771	15.07	18.25
Jerome	42°44'N	1950	May 25	Oct. 8	136	3,308	12.70	
Minidoka	42°40'N	1953	Apr. 2	Oct. 6	187	3,820	22.74	18.11
11	H	1954	Apr. 10	Oct. 5	178	3,940	19.99	17.85
Twin Falls $\frac{2}{}$	42°32'N	1949	Apr. 15	Oct. 18-20	187	4,060	25.10	17.35
11 11	†1	1950	Apr.17-18	Oct. 19	185	3,626	19.50	15.94
11 11	Ħ	1951	Apr. 10	Oct. 23	196	3,773	23.90	16.60
H H	11	1951	Apr. 5	Oct. 13-15	192	3,754	20.19	16.33
0 0	11	1953	Apr. 21	Oct. 14	177	3,886	24.28	18.07
11 11	H	1954	Apr. 14	Oct. 12	181	4,040	26.99	18.85
11 11	11	1955	Apr. 12	Oct. 12	183	3,823	30.30	16.20
11 11	11	1956	Apr. 7	Oct. 20	196	4,215	27.44	16.51
11 11	11	1957	Apr. 25	Oct. 16	174	4,081	27.95	16.30
Burley	42°32'N	1955	Apr. 15	Oct. 14	182	4,095	22.80	15.90
11	11	1956	Apr. 14	Oct. 12	181	4,233	24.33	17.10
H	11	1957	Apr. 9	Oct. 14	188	4,513	25.37	16.41
Utah .,			•			•		
Lewiston 2/	41°58'N	1951	Apr. 16	Oct. 20-21	188	3,537	19.14	16.49
11	11	1953	Apr. 16	Oct. 9	177	3,495	20.01	17.11
**	н	1954	Apr. 2C	Oct. 8	171	3,619	22.48	15.83
H	11	1955	May 12	Oct. 24	165	3,379	16,60	16.80
11	11	1956	Apr. 10	Oct. 11	184	3,780	23.94	18.47
n	H	1957	Apr. 16	Oct. 11	178	3,572	23.01	16.60
Taylorsville	40°46'N	1950	Mar. 22	Oct. 2	194	4,280	28.60	12.77
Granger	40°42'N	1950	Mar. 30	Oct. 9	193	4,398	26.70	16.60
11	11	1950	Mar. 30	Oct. 9-10	194	4,416	23.40	16.39
H	11	1951	Apr. 3	Oct. 13-15	194	4,639	26.70	14.98
11	11	1952	Apr. 24	Oct. 6-8	167	4,742	22.20	14.86
Riverton	40°30'N	1949	Apr. 12	Oct. 26-27	198	4,713	21.80	16.32
Mean					182	3,992	23.20	16.59
Standard Deviation					14	455	3.78	1.09
Coefficient of Vari					7.7	11.4	16.3	6.6

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

<sup>1/</sup> Computed above 40°F. base.2/ Data for year 1952 not available.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 66

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 33 (833)

Buhl, Idaho Latitude 42°36'N

			SOWN-TC	SOWN-TO-HARVESTED		YIELDS	7.6
Crop	Date	Date	No. of	Summation of	Beets	Sucrose	Net Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
				(°F.)	(tons)	(percent)	(tons)
1939	Apr. 21	Oct. 20	182	4,333	24.81	18.39	4.342
=	May 8	n.a.	1 1	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	20.59	17.60	3.413
1940	Apr. 10	Oct. 14	187	4,493	19.26	17.13	3.072
P.	June 6	Oct. 15	131	3,521	3.93	17.29	0.635
1941	Mar. 7	Oct. 6-7	214	3,867	12.26	17.18	1.873
=	Apr. 4	Oct. 6-7	186	3,771	10.54	17.64	1.600
=	May 1	Oct. 6-7	159	3,582	6.42	18.16	0.998
Wean			176	3 928	13 97	17.63	376 6
Standard Deviation	iation	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	27	405	8.15	94.	1.431
Coefficient	Coefficient of Variation $(%)$		15.3	10.3	58.3	2.6	62.9

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage Net Jugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity Gross sugar is the estimated total sugar content per acre (tons of beets per acre multiplied by percentage of sucrose in the beets).

n.a. - not available.

TABLE 67

1.

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 33 (833)

Jerome and Buhl, Idaho

					SOWN-	SOWN-TO-HARVESTED		YIELDS	
State and	Latitude	Year	Date	Date	No. of	Summation of	Beets:	Sucrose	Net-4/Sugar
Station			Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
						(°F.)	(tons)	(percent)	(tons)
Jerome, Idaho	N, 77, 27	1944	May 20	Oct. 24	157	3,758	9.40	1 1 1	;
=	:	<b>:</b>	June 15	Oct. 24	131	3,262	2.96	\$ \$ 1	!!!
Buhl, Idaho	42°36'N	1939	Apr. 21	Oct. 20	182	4,333	24.81	18.39	4.342
1	=	=	May 8	n.a.	:	1 1	20.59	17.60	3.413
Euhl, Idaho	42°36'N	1940	Apr. 10	Oct. 14	187	4,493	19.26	17.13	3.072
=	:	=	June 6	Oct. 15	131	3,521	3.93	17.29	0.635
Buhl, Idaho	42°36'N	1941	Mar. 7		214	3,867	12.26	17.18	1.873
=	=	:	Apr. 4		186	3,771	10.54	17.64	1.600
=	•	=	May 1	Oct. 6-7	159	3,582	6.42	18.16	0.998
Wesan		1 1			168	3.823	12.24	17.63	2.276
Standard Deviation	nr riation				30	383 10.0	7.78	2.6	1.431 62.9

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Computed above 40°F. base. 15/1

Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity factor). beets harvested and the percentage total soluble substances in the beets harvested. Gross sugar is the The purity factor (also called the purity coefficient) is the ratio between percentage sucrose in the estimated total sugar content per acre (tons of beets per acre multiplied by percentage of sucrose in the beets).

n.a. - not available.

PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS DURING SUCCESSIVE PLANTINGS - Variety US 33 (833)

Granger, Utah Latitude 40°42'N.

			SOWN-T	SOWN-TO-HARVESTED		YIELDS	, , , ,
Crop	Date	Date **	No. of	Summation of	Beets:	Sucrose	Net-'Sugar
Year *	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
				(°F.)	(tons)	(percent)	(tons)
1939	Apr. 4	Oct. 26	205	4,911	26.33	17.22	4.056
1940-Field 1	Apr. 13	Nov. 1	202	5,504	23.70	18.04	3.730
" Field 2	Apr. 13	Oct. 29	199	5,456	27.51	17.63	4.273
" Field 3	Apr. 13	Nov. 13	214	5,504	23.10	14.25	2.656
" Field 4	Apr. 13	Oct. 17	187	5,264	24.44	17.89	3.808
" Field 5	Apr. 13	Nov. 14	215	5,504	28.30	16.19	3.930
1941	Mar. 28	Oct. 21	207	4,572	28.36	17.18	4.257
1942	May 11-12	Oct. 26-Nov. 2	172	4,352	25.58	16.80	3.715
1944	n.a.	n.a.	1		22.48	13.87	2.601
Wean	Ties of the contract of the co		200	5,133	25.52	16.56	3.669
Standard Deviation	ation		13	491	2.33	1.50	.580
Coefficient of Variation (%)	f Variation (?	(2	6.5	9.6	9.1	9.1	15.8

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base. 2/ Net Sugar - Estimated recoverabl

sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage Gross sugar is the estimated total sugar content per acre (tons of beets per acre multiplied by Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity percentage of sucrose in the beets).

percentage n.a. - not available.

\* Data for year 1943 not available.

Day-degree computatious were made on the basis of averages of dates indicated.

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 33 (833) 8 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

(Stations arranged according to latitude)

					-NMOS	SOWN-TO-HARVESTED		YIELDS	3 /-
State and	Latitude	Year *	Date **	Date**	No. of	Summation of	Beets:	Sucrose	Net-/Sugar
Station			Sown	Harvested	Days		per Acre	Content	per Acre
						('F.)	(tons)	(percent)	(tons)
Toppenish, Wash.	N, 61, 97	1939	Mar. 27	Oct. 16	203	5,031	23.15	17.69	3.677
Idaho Falls, Idaho	43°29'N	1939	Apr.18-19	Oct. 21	186	3,617	16.89	18.77	2.642
Jerome, Idaho	45°44'N	1944	May 20	7	157	7	07.6	!!!	t I
	=	=	June 15	Oct. 24	131	۲,	2.96	!!!	:
Buhl, Idaho	42°36'N	1939	Apr. 21	Oct. 20	182		•	18.39	4.342
	=	=	May 8	n.a.	!!!	:	20,59	17.60	3.413
10	=	1940	Apr. 10	Oct. 14	187	4,493	19.26	17.13	3.072
4.0	:	=	June 6	Oct. 15	131	3,521	3.93	17.29	0.635
=======================================	=	1941	Mar. 7	Oct. 6-7	214	3,867	.2	17.18	1.893
	=	<b>:</b>	Apr. 4	Oct. 6-7	186		10,54	17.64	1.600
11	=	2	May 1	Oct. 6-7	159	S	6.42	18.16	0.998
Twin Falls, Idaho	42°32'N	1940	Apr. 18-19	Oct.21-22	187	•	28.72	16.76	4.459
	14	1941	Apr. 21	Oct.13-14	176	3,824	25.22	18.53	3.891
Taylorsville, Utah	N,95,05	1941	Apr. 1	Cct. 13	195	4,488	23.24	13.89	2.868
Granger, Utah	40°42'N	1939	Apr. 4	Oct. 26	205	4,911	26.23	17.22	4.056
-	1	1940-Field 1	Apr. 13	Nov. 1	202	5,504	23.70	18.04	3.730
11	=	" Field 2	Apr. 13	Oct. 29	199	5,456	27.51	17.63	4.273
22	:	" Field 3	Apr. 13	Nov. 13	214	5,504	23.10	14.25	2.656
to 74	=	" Field 4	Apr. 13	Oct. 17	187	5,264	24.44	17.89	3.808
	=	" Field 5	Apr. 13	Nov. 14	215	5,504	28.30	16.19	3.930
# P	=	1941	Mar. 28	Oct. 21	207	4,572	28.36	17.18	4.257
	=	1942	May 11-12C	Oct.26-Nov.2	172	4,352	25.58	16.80	3.715
**	=	1944	n.a.	n.a.	1	!	22.48	13.87	2.601
West Jordan, Utah	40°32'N	1939	Apr.26-27	Oct. 23	180	4,470	16.30	18.92	2.793
Mean					185	4,441	19.72	17.14	3.150
Standard Deviation					22	743	8,31	1.27	1,112
Coefficient of Variation	iation				11.9	16.7	5.2	7.4	35.3
Source: Based on c	lata of the	Sugar Beet I	Based on data of the Sugar Beet Investigations	Branch.	Grons Res	Research Division	Apricultura	iral Research	rch Service

source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

Computed above 40°F. base.

Net sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity factor). The purity factor (also called the purity coefficient) is the ratio between percentage sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. Gross sugar is the estimated total sugar content per acre (tons of beets per acre multiplied by percentage of sucrose in the beets). n.a. - not available,

\* Some years were not included in this series due to lack of either phenological records or temperature data. \*\* Development commutations were made on the basis of averages of dates indicated.

TABLE 70

1/ PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS JURING SUCCESSIVE PLANTINGS - Variety Imp.US 33(910)

Buhl, Idaho Latitude 42°36'N.

			SOWN-TO	SOWN-TO-HARVESTED		YIELDS	2/
Crop	Date	Date	No. of	Summation of	Beets:	Sucrose	Net - Sugar
Year	Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
				$(\cdot A_c)$	(tons)	(percent)	(tons)
1940	Apr. 10	Oct. 14	187	4,493	20.73	16.57	3.156
1940	June 6	Oct. 15	131	3,521	09.9	16.37	0.991
1941	Mar. 7	Oct. 6-7	214	3,867	12.24	16.88	1.836
=	Apr. 4	Oct. 6-7	186	3,771	13.75	17.54	2.036
=	May 1	Oct. 6-7	159	3,582	9.74	17.84	1.457
Mean			175	3,847	12.61	17.04	1.895
Standard Devi	Standard Deviation	# # # # # # # # # # # # # # # # # # #	31	334	4.64	.65	.703
Coefficient (	Coefficient of Variation (2)		17.7	8.7	36.8	3.8	37.1

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

Computed above 40°F. base.

sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity Gross sugar is the estimated total sugar content per acre (tons of beets per acre multiplied by percentage of sucrose in the beets).

PHENOLOGY, DAY-DEGREE SUPPATIONS, AND YIELDS OF SUGAR BEETS - Variety Imp. US 33 (910) (Stations arranged according to latitude) 3 UNITED STATES INTERMOUNTAIN STATIONS

YIELDS

					-ZMOS	SOWN-IO-HARVESTED		١	- 7/7 -
			Date	Date *	No. of	Summation of	Beets:	Sugar N	Net Sugar
State and Station	Latitude	Year	Sown	Harvested	Days	vay-vegrees (°F.)	(tons)	(percent)	(tons)
Idahc Buhl "	42°36'N "	1940	Apr. 10 June 6 Mar. 7 Apr. 4 May 1	Oct. 14 Oct. 15 Oct. 6-7 Oct. 6-7 Oct. 6-7	187 131 214 186 159	4,493 3,521 3,867 3,771 3,582	20.73 6.60 12.24 13.75 9.74	16.57 16.37 16.88 17.54 17.84	3.156 0.991 1.836 2.036 1.457
Twin Falls	42°32°N	1941	Apr. 21	Oct. 13-14	176	3,824	25.77	17.91	3.799
<u>Utah</u> Granger	40°42'N	1942	May 11-12	Oct. 26 - Nov. 12	172	4,352	24.59	17.13	3.651
MeanStandard DeviationCoefficient of Variation (2)	ion Variation (2)				175 23 13.1	3,916 184 4.7	16.20 8.05 49.7	17.18 0.63 3.7	2.418 1.20 49.6

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage Gross sugar is the estimated total sugar content per acre (tons of beets per acre multiplied by percentage of sucrose in the beets). Net sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity

\* Day-degree computations were made on the basis of averages of dates indicated.

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 33 (333) (Stations arranged according to latitude) 3 UNITED STATES INTERMOUNTAIN STATIONS PHENOLOGY, DAY-DEGREE

					SOWN-	SOWN-TO-HARVESTED		YIELDS	, ,
State and	Latitude	Year	Date	Dáte*	No. of	Summation of	Beets:	Sucrose	Net-/Sugar
Station			Sown	Harvested	Days	Day-Degrees	per Acre	Content	per Acre
					; ;	(°F.)	(tons)	(percent)	(tons)
Toppenish, Wash.	N,61°94	1945	Mar. 20	Oct. 8-12	204	4,958	32.72	16.94	5.532
Layton, Utah	41°05'N	1945	Apr. 17	Oct. 8-9	175	4,201	23.97	16.63	3.646
Granger, Utah	40°42'N	1944	n.a.	n.a.	t 1	\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	23.78	14.56	2.926
20	:	1945	Apr. 6-7	Oct. 10-16	190	4,294	29.68	15.83	4.078
<b>=</b>	=	1945	=	=	190	4,294	27.54	16.19	3.942
Wean					190	4,437	27.54	16.03	4.025
Standard Deviation	1 1	1	1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	0.6	327	3.67	0.84	.782
Coefficient of Variation (%)		1 1 1 1 1 1 1 1		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4.7	7.4	13.3	5.2	19.4
									i

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

 $\frac{1}{2}$ / Computed above 40°F. base.  $\frac{2}{2}$ / Net Sugar - Estimated recoverable sugar yield per

sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. factor). The purity factor (also called the purity coefficient) is the ratio between percentage Net Sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity Gross sugar is the estimated total sugar content per acre (tons of beets per acre multiplied by percentage of sucrose in the beets).

\* Day-degree computations were made on the basis of averages of dates indicated.

STATE STATE

TABLE 73

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PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 33 (or 0173)

Granger, Utah Latitude 40°42'N

			L-NMOS	SOWN-TO-HARVESTED	YIELDS	S
	Date	Date Harvested	No. of Davs	Summation of Dav-Degrees	Beets:	Sucrose Content
Iear	11000			(°F.)	(tons)	(percent)
1943	April 1	Nov. 5	217	5,233	27.50	15.78

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

1/ Computed above 40°F. base.

SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 33 (7307) 7 UNITED STATES INTERMOUNTAIN STATIONS, 1938 (Stations arranged according to latitude) PHENOLOGY, DAY-DEGREE

				SOWN-1	SOWN-TO-HARVESTED		YIELDS	
State and	Latitude	Date *	Date *	No. of	Summation of	Beets:	Sucrose	Net Sugar
Station		Sown	Harvested	Days	Day-Degrees	Per Acre	Content	Per Acre
Washington					(°F.)	(tons)	(percent)	(tons)
Toppenish	N.61.97	Mar. 28	Oct. 16	202	5,358	19.67	16.02	2,819
Idaho Buh 1	42°36'N	Apr. 29	Oct. 12	166	4.027	21.05	16,38	057 8
Twin Falls	42°32'N	Apr. 4-7	Oct. 21	200	4,254	23.94	15.52	3.336
Utah	•							
Garland	41°44'N	_	7	227	4,638	31.92	14.54	3.913
Valt Lake City	N. 95.07		~	207	4,897	26.52	15.28	3.531
West Jordan	N. 75 Ob			195	4,680	15.72	16.49	2.410
Sevier valley	N. CF. 85	Apr. 20	Oct. 18	181	4,314	19.95	16.45	2.923
Mean				107	202 /			
Standard Deviation		1		17	4,390	5.13	15.81 0.75	3.197 0.516
Softicient of Variation (%)	iation (%) -			8.6	9.3	22.6	4.7	16.1

Source: Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture.

1/ Computed above 40°F. base.

sucrose in the beets harvested and the percentage total soluble substances in the beets harvested. The purity factor (also called the purity coefficient) is the ratio between percentage Net sugar - Estimated recoverable sugar yield per acre (estimated gross sugar per acre multiplied by purity Gross sugar is the estimated total sugar content per acre (tons of beets per acre multiplied by percentage of sucrose in the beets).

\* Day-degree computations were made on the basis of averages of dates indicated.

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TABLE 75

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SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 34 (Reselection 712) 3 UNITED STATES INTERMOUNTAIN STATIONS (Stations arranged according to latitude)  $\frac{1}{2}$  PHENOLOGY, DAY-DEGREE

					SOWN-	SOWN-TO-HARVESTED	YIELDS	DS:
			Date *	Date *	No. of	No. of Summation of	Beets:	Sucrose
State and	7	7000	Soun	Harvested	Days	Day-Degrees	per Acre Content	Content
Station	тастспое	Tear				(°F)	(tons)	(percent)
Twin Falls, Idaho	42°32'N	1938	Apr. 4-7	Oct. 21	200	4,254	28.48	15.06
Salt Lake City, Utah	N.95.05	1938	Apr. 13	Nov. 2-10	207	4,897	27.98	14.12
Sevier Valley, Utah	38°35'N	1938	Apr. 20	Oct. 18	181	4,314	21.42	16.11
Mean				1 3 5 2 1 1 1 1 1	196	4,488	25.96	15.10

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

<sup>1/</sup> Computed above 40°F. base.

Day-degree computations were made on the basis of averages of dates indicated.

TABLE 76

PHENOLOGY, DAY-DEGREE SUMMATIONS, AND YIELDS OF SUGAR BEETS - Variety US 34 (Reselection 812) (Stations arranged according to latitude) 3 UNITED STATES INTERMOUNTAIN STATIONS

					SOWN-	SOWN-TO-HARVESTED	VIELDS	DS
State and			Date	Date	No. of	Summation of	Beets:	Sucrose
Station	Latitude	Year	Sown	Harvested	Days	Day-Degrees	per Acre Content	Content
						(°F.)	(tons)	(percent)
Idaho Falls, Idaho	43°29'N	1939	Apr.18-19	Oct. 21	186	3,617	17.11	18.52
Granger, Utah	40°42'N	1939	Apr. 4	Oct. 26	205	4,911	26.19	16.72
West Jordan, Utah	40°32'N	1939	Apr.26-27	Oct. 23	180	4,470	16.40	18.54
Mean	8 8 8 8 8 8	 	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	: 1	190	4,333	19.90	17.93

Based on data of the Sugar Beet Investigations Branch, Crops Research Division, Agricultural Research Service, U. S. Department of Agriculture. Source:

 $\underline{1}$ / Computed above 40°F. base.

RANGE OF DAY-DEGREE SUMMATION REQUIREMENTS OF THE SOWN-TO-HARVESTED PERIOD OF SUGAR BEETS GROWN IN A NUMBER OF AREAS OF THE INTERMOUNTAIN REGION OF THE UNITED STATES

Mashington Toppenish	Latitude		
Washington Toppenish		Sown-to-Harvested	(Table No.)
Tdaho	N,61°94	4,731 - 5,358	1 - 28
Sugar City	N, 83°54	2 992	71
Nampa	-	•	5 <b>1</b>
Idaho Falls	43°29'N	m	
Shelley	43°22'N	ı ı	$\frac{5}{10} = \frac{5}{77}$
Jerome	45°44'N	4	•
Minidoka	45°40'N	` e	ı
Buh1	45°36'N	- 4,	21
Twin Falls	42°32'N	- 4,	
Burley	45°32'N	7 -	8 - 65
Utah			
Lewiston	41°58'N	3,379 - 3,780	3 - 61
Garland	41°44'N	131 - 4	ı
Layton	41°05'N	4,201	19
Taylorsville	40°46'N	4.280 - 5.252	12
Salt Lake City	N,95,05	•	17
Granger	40°42'N	4,294 - 5,504	19 = 20
Sandy	40°35'N	5.029	26
West Jordan	40°32'N	4,470 - 4,968	28 - 77
Riverton	40°30'N	4.713	7
Gunnison	39°07'N	4.178	1.2
Sevier Valley	38°35'N	4,314	28